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DANIEL L. M. PEIXOTTO, M.D.

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PREFACE.

Seven years have elapsed since the New York Medical and Physical Journal entered the lists of periodical competition in the laudable effort to communicate and diffuse medical information. It has encountered, during this period, difficulties and discouragements of which some have been common to every journal that ever was undertaken in the city of New York, and speedily destructive of the existence of nearly all; while others have been peculiar to itself, arising from circumstances which it were needless to enumerate at the present time. Its success in the arduous struggle has been sufficiently attested by the internal evidences of increase and improvement which it has progressively and steadily exhibited, and has been more than gratifying to the pride of its numerous friends, as well as of all those members of the profession in the state of New York, who regard the advancement of its literary and scientific character as paramount to all selfish and party considerations. For this triumph it has been mainly indebted to the spirited exertions and indefatigable perseverance of its late principal editor and original projector, Dr. John B. Beck, Professor of Materia Medica in the University of the State of New York. It will, therefore, be a source of satisfaction to the patrons of the work to be informed, that, although the public and private avocations of Dr. Beck will, hereafter, forbid his exclusive attention to the editorial department, his zeal for the prosperity of the work remains unabated, and his assistance will never be withheld. Of the other gentlemen who have lately been associated as editors, the valuable services will likewise be continued, and in addition, those of a number of distinguished members of the profession have been secured, who have united to support the Journal by their contributions. Their names will accompany each number.

In order to meet the increase of materials, which this new arrangement will afford, to convey as much *practical* information as the majority of contemporaneous journals afford, and as the taste and necessities of the medical reader seem to require, the size of the Journal has been considerably enlarged, and will be still further enlarged, as occasion requires. Plates will be furnished as often as the illustration of subjects renders them necessary—not so much, however, with a view to adorn the Journal, as to inform the reader. They will be always executed in the best style. An increase of the price commensurate with the augmented cost will not be deemed unreasonable.

In assuming the duties of active editor, the subscriber feels sensibly the numerous responsibilities which devolve upon him, and which are not rendered the less arduous by the busy and restless spirit of rivalry which stimulates the conductors of the medical periodical press to excel and outstrip each other in the variety, extent, and novelty of the information so abundantly furnished by the daily, almost hourly, development of new facts and improvements in medicine and its collateral branches. If a sincere zeal to promote the interests of his professional brethren, a ready access to the most recent sources of intelligence, and no inconsiderable experience can enable him to discharge this part of his duty to the satisfaction of the public, he trusts he shall not be found wanting in its performance. The interests of practitioners in the country, who are debarred, by their situation, from the advantages afforded by public libraries and reading rooms, will be constantly borne in mind and specially consulted.

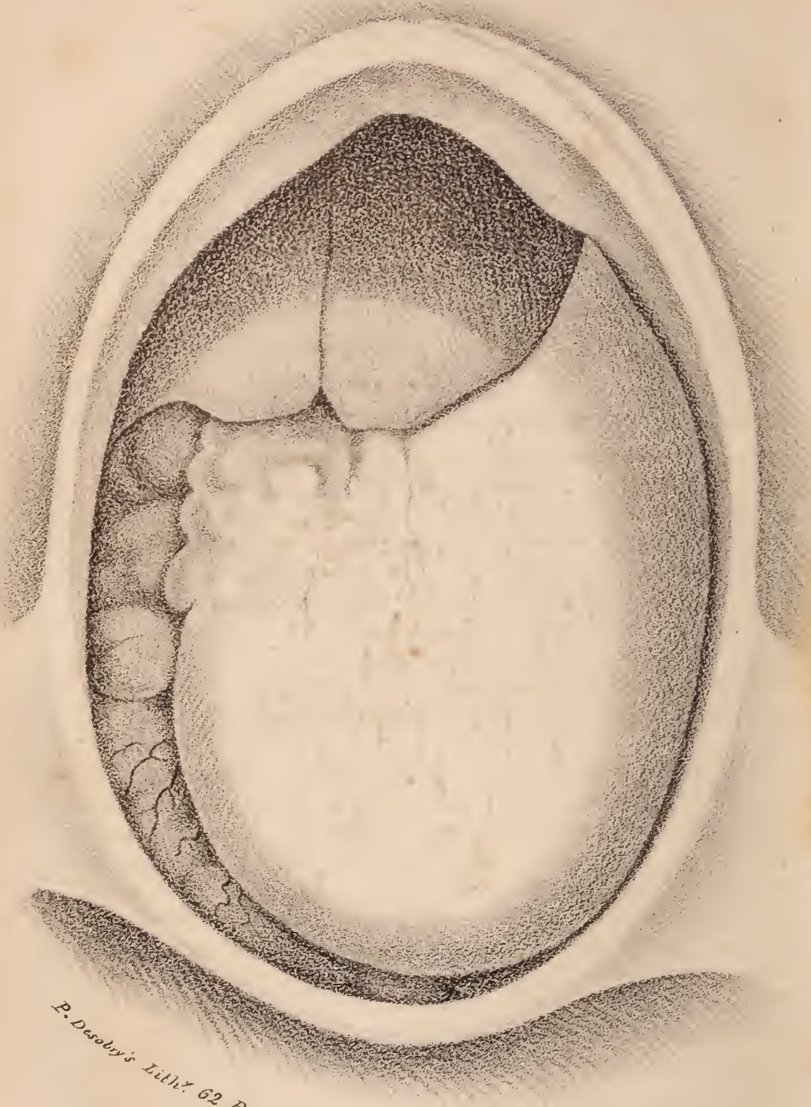
In the *original* department, essays, which are characterized by ingenious speculation, novel practice, or useful discoveries, will always be preferred to those, whose only recommendations are encyclopedic lore or timeserving compilation.

Reviews shall be written in the spirit of impartiality and candor—and a liberal policy shall ever be pursued towards authors. While captious criticism and personalities will ever be sacredly avoided, as the bane of medical courtesy, and of the true interests of science; indiscriminate praise will be alike eschewed, as defeating the high objects of honorable and impartial criticism, and humiliating to the character of a work, which seeks public approbation, not by unlimited and servile adulation, but by a manly and an independent exercise of judgment, of which the decision can only be appreciated in proportion as the praise or censure it bestows is cautious and discriminative.

In requesting the aid of the profession generally, to the support of the New York Medical and Physical Journal, the editor hopes that it will be distinctly understood, that its objects are general—intended to advance the cause of medical science, and elevate the standard of medical reputation. Its pages are opened to the members of the profession at large, without party or sectional exclusion. The name of the work indicates not any limitation to its views, nor any restriction to its attachments, but simply its place of publication. And when it is considered that this place is the emporium of the western hemisphere, the capital of the most growing, flourishing, and powerful state in the United States of America, possessing within itself a numerous body of physicians, distinguished for their talents, intelligence, and practical skill, that it is connected by means of its vast commercial facilities with every portion of the habitable globe, and is, moreover, supplied with abundant materials in its extensive hospitals and dispensaries for the support of a medical journal, the advantages of its *locality* will not appear slight or worthy of disparagement.

DANIEL L. M. PEIXOTTO.

N.Y. Med Jour Vol I N S p 70. Dr. Rumsay's Case. Pl. 1.



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ART. I. *Annual Address, delivered before the Medical Society of the State of New York, Feb.* 3, 1829. By T. ROMEYN BECK, M. D., President of the Society.

GENTLEMEN OF THE SOCIETY—

SINCE we last closed our annual deliberations, events have occurred to remind us, that, as well in our corporate as in our individual capacity, we are not exempted from the common lot of man. An aged and respectable practitioner, one of the early presidents of this Society, has, during the last year, yielded to the inevitable stroke of fate.* Nor ought an allusion to his name to be omitted, under whose magistracy we held our last meeting. The friend and eulogist of our profession—the scholar and the statesman—the pride of his native state—has suddenly been removed.

It is a "taming thought to human pride," that, although death destroys those whose existence is deemed most necessary to the common welfare, yet the train of events proceeds on with a steady march. It is no less evident that, in the present era of advancement in knowledge, no minor obstacle can be found which will permanently impede its course. In all the schemes for the melioration of the condition of man, —for his growth in science—his progress in morality and religion, the loss of one master spirit is early compensated by the acquisition of many ardent votaries. We feel this in our own profession. The general diffusion of information brings numerous laborers into the common harvest; and emulation is excited as well by the examples of the present day, as by a retrospect of the past. There is no branch of medicine—either strictly belonging to its numerous departments, or ministering collaterally to their improvement—which is not industriously and successfully cultivated.

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* Hon. William Wilson, M. D., of Columbia county, President of the State Medical Society, during the year 1813.

It is impossible to survey this effort, or its results, without a sensation of pleasure, or without a wish that its value may be generally understood. That there are impediments to this, is only to confess that human nature is imperfect and wayward. But if we examine more closely into the causes of the indifference or ignorance manifested by the greater part of mankind, we shall, I apprehend, find it mainly owing to the negligence of our own profession. The importance of the subject—its extensive and interesting bearings on human happiness—its magnitude, even as a branch of scientific study, are not sufficiently presented in relief before those who can judge with discrimination, or appreciate with accuracy. All proper occasions should be embraced to manifest to the community what is doing to remove the charge of uncertainty in medicine, and to illustrate the discoveries which the talent of the present age is bringing forward. I avail myself of the opportunity, at the conclusion of my term of office, to dwell for a short time on this subject in its interesting relations.

The first illustration I would offer of great IMPROVEMENT IN MEDICINE, is the *distrust which is obtaining against general theories.* There was a period when every physician ranged himself under the banner of some great name—adopted his doctrines, and obeyed the precepts which he inculcated. Many of the celebrated individuals to whom I refer were, indeed, master spirits; whose lives cannot be read without admiration, and whose eloquence and learning won them willing votaries. Each, in his turn, in various ages, down to our own days, fondly imagined that he had reared the imperishable monument, which neither time nor human industry could overthrow. Each imagined that he, at least, had developed the laws of life—discovered their mysterious workings, and elucidated the changes that disease produces in them. But, like material monuments, they have slowly crumbled, or been violently overthrown, and we search among the ruins for some precious relic that may have been forgotten in the destruction. Such they all contain. There is no theory ever yet promulgated, which is not based on some portion of positive truth. Indeed it could hardly have been otherwise. The founders were men of vigorous intellect and of keen observation. They drew from their own stores, and were only wanting in that universality of knowledge which is essential to the formation of a perfect system. They seized on some prominent phenomenon, and, after examining it with skill and acuteness, made it the groundwork of their superstructure. In the devotion so natural towards a favorite opinion, other facts, no less striking, were either unheeded or diminished in value to their mental view. Thus the basis was frequently narrow and contracted, but not, as some are fond of asserting, imaginary.

A subsidiary but important advantage has also accrued from the successive promulgation of these theories. The disciple, animated with an enthusiastic belief in the doctrines of his preceptor, warmed by the eloquence of his prelections, or excited by the attacks of his opponents, applies himself to the invention of new arguments, or the detection of fallacious objections. In such a contest, with much that is superfluous, and often something that is offensive, additional facts are, notwithstanding, elicited, and the value of old ones is better understood and more correctly applied. A rapid accumulation is thus produced, of the mass of knowledge, for which, otherwise, years of desultory effort would have been necessary. The utility of this has been noticed in other sciences. In geology, in particular, the promulgation of various theories, and the ardor with which they have been impugned or defended, certainly are among the principal causes of the numerons and most interesting data, of which it now boasts.

But notwithstanding this compensating benefit, the main objection which I have made remains, and it applies with peculiar force to those doctrines which are offered as explanatory of the phenomena of fever. This disease, in its various forms and numerous combinations, is a fertile source of investigation—and most deservedly so; for it embraces a large proportion of the "ills to which flesh is heir." Fevers strictly so called—the local inflammations—many forms of eruptive disease, and of hœmorrhage, besides a numerous list usually included under the head of chronic diseases, owe much of their character, as well as severity, to the symptoms usually denominated febrile. To explain these in their order, and to account for the anomalies they so frequently present, has been deemed a fit employment for the wisest and most intellectual of our brethren in successive ages. Their want of success may be read in the prevalence of a modern theory, of which, while I would desire to speak of it with respect, I must notwithstanding remark, that, like its predecessors, it appears too partial and confined in its application. Its popularity among a portion of the medical profession in France, and the favorable reception it has met with in some parts of our own country, are not, I apprehend, any invalidation of what I have already said concerning the *general* distrust that is entertained. Due praise may be given for the improvements in pathological research which it encourages, (and which I shall hereafter more particularly notice,) and for the caution it has taught against pushing too far the use of some of our most active and valuable medicines; but its leading propositions cannot become the creed of the profession. A similar remark will apply to the opinions on the same disease, promulgated in England, by a talented individual. They both run counter to that course of practice which, although requiring nice adjustment, has yet, on the whole, been found, by those who have had the most extensive experience, the most beneficial in checking or removing disease. They necessarily lead—the one often to too active treatment—the other to an inefficient one; and though, in the hands of their authors, these difficulties may not occur, yet, in those of their followers, the result, if we may judge from all former experience, would appear to be inevitable. I am aware of the delicate ground which I occupy in making these remarks, and that I may expose myself to the charge of rash and unfounded censure; but the present is not the place for discussing the merits of these doctrines, and I have only aimed to announce and elucidate a fact which, I believe you will agree with me, is correct, viz. that there is a great repugnance among the profession to embrace general theories, and to shape their practice in strict conformity to them; and that this repugnance is constantly increasing. Whether this is owing to ignorance or perverseness, is a secondary point of enquiry. I, for one, am as free in ascribing it to the more general diffusion of knowledge—to a candid but decisive application of the experience of the past—and to an increasing desire to study diseases distinctly with reference to their appropriate as well as ever varying symptoms, and the changes that are thus produced.

This leads me to the notice of a second feature in the present history of medicine, illustrative of its improvement, viz. *the advancement in pathological research.*

If there be a single individual in later times to whom the honor of exciting and directing to this particular branch is preeminently due, it is the illustrious Bichat. His life was closed at the early age of thirty-three years, but that short span was sufficient for him to produce his volumes in General and Descriptive Anatomy, his Treatise on the Membranes, and his Essay on Life and Death. And these works were the result of numerous and varied experiments and observations—of laborious and unwearied employment in the dissecting room—and, finally, of the application of rare intellectual powers to their generalization and arrangement. The division of the body by him into its elementary textures, and the enquiry into their distinct properties, with the changes they undergo from disease, form the basis of discoveries, of which we cannot yet appreciate the extent or the value.

Since his lamented death, the path of enquiry has been thronged by his votaries and admirers. In France, pathological anatomy is pursued by hundreds of ardent and active minds; and in England, with each succeeding year, it is evident that the subject is gaining and commanding consequence. In this nation, with obstacles peculiar, and in some instances almost insurmountable, some additions have been made to the general fund. The result is cheering to the man of science, as well as to the philanthropist. Knowledge is advanced, and human suffering is mitigated or removed. Look at the practical operation of this pursuit. An individual, after struggling with disease which resists all medical skill, sinks under its effects. The symptoms have been narrowly watched by his attendant, and he has endeavored to apply appropriate remedies. But occasionally some appearances have been noticed, the cause of which he cannot explain. His medical agents, also, do not produce their usual effects. What are the morbid changes that have caused this? If the lifeless body be consigned to its mother earth without examination, can any information, except of a mere negative kind, be drawn from the case, to be hereafter applied for the benefit of the living? Not so is the practice in the foreign countries which I have noticed. The view of the ravages of the disease illustrates the alterations which have taken place; and, although they frequently appear rather as effects than causes, yet sufficient is obvious to enable useful deductions to be formed, to explain many of the symptoms, and to furnish materials for reflection and improvement in future practice. Need I suggest that many diseases are yet imperfectly understood, and can only be elucidated by the light of this torch. How many have been thus developed by the labors of Morgagni, Baillie, and others! How many, even within the present century, have been successfully explored by Laennec and his compeers in France, by Bell and others in England! The nature of new or unknown diseases can thus alone be discovered. Allow me, in illustration, to refer to a case of mortality, the sudden announcement of which is feelingly remembered by every man in the community who was then living. If the death of our beloved and lamented WASHINGTON was owing, as would seem from the brief account we have of his symptoms, to the disease now styled Laryngitis, where was the instruction to guide the practitioner? It was not until several years thereafter, that the sudden disease from it of two distinguished physicians in London, led to pathological examination. Its nature became evident—its mortality was rendered less certain—and, dangerous as it ever must prove, instances are even multiplying of recovery from its effects. And yet this disease must have occurred centuries ago; and who can tell how many lives might have been prolonged, had its character been thus specially marked and investigated at an early period.

The tendency of these observations necessarily leads me to notice the importance of dissection. I am aware of the prejudices that must be encountered in discussing its necessity; but they must be overcome, if at all, by arguments that shall shake their vehemence. They owe their origin, in some respects, to the best feelings of the human heart; while they are unquestionably heightened by the practice of disinterment. But it is because we would render this alternative unnecessary, that I venture to mention the subject.

That an intimate knowledge of the condition of the human system, both in health and in diseases, is indispensable to the judicious application of curative means, would seem to be an axiom that requires only to be stated, in order to meet with universal credence. It is no less certain that the community must suffer from the consequences of ignorance. The truth of these remarks appears most strikingly in the department of surgery, although they will be no less conspicuous, to him who will investigate, in that of medicine. In the language of the report made last summer to the English house of commons, by a committee of its members not professional, (a paper which should be in the hands of every intelligent citizen in our own country) "as the science of anatomy has improved, many operations formerly thought necessary have been altogether dispensed with; most of those retained, have been rendered more simple, and many new ones have been performed, to the saving of the lives of patients, which were formerly thought impossible. To neglect the practice of dissection would lead to the greatest aggravation of human misery; since anatomy, if not learned by that practice, must be learned by mangling the living. Though all classes are deeply interested in affording protection to the study of anatomy, yet the poor and middle classes are most so: they will be the most benefited by promoting it, and the principal sufferers by discouraging it. The rich, when they require professional assistance, can afford to employ those who have acquired the reputation of practising successfully. It is on the poor, that the inexperienced commence their practice."

But it is not the poor only that are thus to be benefited by the pursuit of anatomy. There is another class of the community whose condition must excite all the best feelings of our nature,—the victims of the elements—at a distance from their home—deprived of the blessings of domestic life, and yet proudly maintaining the honor and glory of their native land. Our gallant soldiers and sailors, in time of war, have no solace when the hour of danger approaches—no hope amid the storm of battle, that they shall escape from the consequences of dangerous wounds, except in the skill of their medical attendants. The records of the armies and navies of foreign countries, and particularly of England, where the materials for comparison are most copious, attest how much of human life has been thus preserved, and how great has been the diminution of mortality, when compared with former years.

A word or two is necessary in defence of those who pursue these studies. All will grant that they would not have been selected, except from a high sense of duty. It requires some lofty excitement—some moral courage, to be thus employed.

The mysterious change which death induces, is alone sufficient to startle the most buoyant spirit; but with this, the pathologist must familiarize himself. He proceeds to his high office at the risk of health—often, indeed, of existence. I appeal to your reading, in confirmation of the truth of my assertion, that, for several years, scarcely a medical journal has arrived from abroad, which does not contain an account of some individual, who has either met with irreparable injury to his constitution, or has lost his life, from accidents occurring during dissection. Instances of a similar nature have happened in our own country; and, apart from the honorable ambition of acquiring some fame, what can be the object of this untiring and hazardous labor? Is it not to ascertain what has been the cause of the mortality, and whether its seat and nature are under the power of human skill? Surely, under the obstacles which I have noticed, a triumphant proof is given of the desire of improvement in our profession.

I will only notice a third circumstance indicative of a main proposition—viz. *a most remarkable improvement in the composition and administration of remedies.*

The slow progress of the materia medica, in former times, is sufficiently explained by the fact that remedies are applied to a system, that we are scarcely ever certain is constituted exactly alike in any two individuals. Apart, then, from the general operation of medicines, and even these are modified by the presence of different diseases, numerous observations are required to establish their respective characters. In addition to this, it was so much the fashion, in former times, to unite several in one prescription, that it would seem almost impossible to designate the distinct effects of each. The imagination, also, often aids in diversifying these results. Some patients, buoyed up by an implicit confidence in a particular substance, assist, as it were, its effects; while others take it in doubt and fear, and thus deprive it of half its efficacy. Another and most serious impediment to the advancement of the materia medica, has been the number of medicines which encumber our pharmacopœias and dispensatories.

Some of these difficulties are from their nature insurmountable—since they attach to the nature of the human system, and are inseparable from it. There are others, however, which our own times are about removing. It has been discovered, that many medicines, in whose efficacy all agreed, but whose effects were occasionally uncertain, are of a compound nature—that, along with their curative constituents, they contain useless or noxous ingredients. We are indebted for this knowledge to modern chemistry—a science eminently practical in its details, and promising at no distant day to remodel its sister branch. I cannot adduce more striking examples of the fruit of this analysis, than the discoveries that have been made concerning bark and opium.

The first of these, the cinchona or Peruvian bark, has for many years been known as a powerful febrifuge. It is ascertained that there were several species of trees which furnished it, and experiments soon showed that their qualities were various. From time to time a change took place in the popularity of the different kinds; but the difference in quality of the imported article, and the repeated disappointments experienced in its administration, either from loading the stomach, or causing other results destructive of its antifebrile powers—all tended to impair its general reputation, and there was a period, where another remedy, but which all would agree in omitting, if its place could be supplied, was substituted. Chemists, however, have analyzed the bark, and found, that instead of being homogeneous, it consists of eight or nine ingredients. They have separated the important constituent, (the quinine,) and, in its distinct form, it is now to be purchased of every druggist. Of its general success in the removal of intermittents, every physician can speak.

Opium also is a remedy that all unite in commending, when judiciously administered. Its powers in mitigating pain, and in soothing the wearied mind and diseased body, entitle it to a high rank among medicinal agents. Yet its operation has occasionally been unkind; and often, when we are most desirous of obtaining its anodyne effects, a dread of its attendant consequences has restrained us from recommending it. Substitutes, comparatively inefficient, were necessarily employed. But, about twenty years since, the compound nature of opium began to attract the attention of chemists, and, from the experiments of Sertuerner, Robiquet, Pelletier, and others, it seems now established that it consists of (besides several unimportant ingredients) three principles—morphia, narcotine, and meconic acid. The first of these produces the soothing effects—without the feverish excitement, heat, and headache, which so frequently accompany the employment of the drug, and which from experiments seem referable to the second substance I have mentioned. The third does not appear to produce any effect on the human system. If morphia be united to an acid, its stimulating properties are apparently still farther counteracted.

These are surely important improvements, and the more so, as they allow its use in states of disease, where it must otherwise have been interdicted.

But it is not only to the investigation of the nature of old remedies, and of which I might continue to adduce numerous examples, that the intellect and labor of the profession are directed. New therapeutic agents are constantly developing. Iodine was unknown in 1811. A manufacturer at Paris observed, that in preparing carbonate of soda from the ashes of sea weeds, the residual liquor powerfully corroded metallic vessels. He enquired into the cause of the corrosion, and the result was the discovery of this substance—a simple, undecomposable body, so far as our knowledge extends. The next step was to ascertain in what bodies it exists; and among these, sea weeds, the kelp prepared from them, sponges, and some marine animals, were found to furnish it in the greatest quantity. A physician, recollecting that burnt sponge had acquired some local reputation in the treatment of goitrous affections, embraced the idea, that its virtue might have originated from the iodine it contained. He prescribed it in these diseases, and found its effects so powerful, that it was necessary to alter the form of administration. Yet his success, and that of others, have been great. Its use has been extended to the diseases of other glands. The result is still under judgment; but all agree, that an agent has been discovered, more direct in its operation than any yet known, on those maladies which minister to the production of our most common and fatal diseases.

Are these examples which I have adduced satisfactory in showing the exertions of the profession to improve the nature of remedies? Are they sufficiently illustrative of its desire to increase them, so far as sober judgment and prudence will warrant? If so, why should others, who are not of the profession, and who cannot, even in common charity, be supposed to have the necessary preliminary knowledge, either of medicines or of the body, be permitted to employ their supposed curative agents? It has been replied, that the use of vegetable remedies alone is to be permitted, and the usual argument advanced, that, if they do no good—they will do no harm. But I would ask, whether the effects and the extent of vegetable and mineral medicines, when thus placed in opposition to each other, are sufficiently understood. The supposed deleterious substances of the former class, which are most commonly used, are arsenic and mercury. They have been known for centuries as poisonous substances when given in considerable quantities. The child hears and remembers this; and the man, long before he enters on the practice of medicine, has his mind deeply impressed with the necessity of administering them in small doses, and then only with caution, and after mature reflection—they are so given. Arsenic combined with potash has been used for upwards of forty years, with great success, in the treatment of agues and other diseases. But it was not from choice. It was because the bark failed in numerous instances—because its quality was often bad, and its effects even positively injurious. For the reasons already stated, the use of quinine is rapidly diminishing the employment of the mineral.

As to mercury, I will only say, that if there be a single drug, that in human hands has proved a most distinguished curative means, it is this. That its effects may be occasionally uncertain or injurious, is only to repeat, that there are peculiarities of constitution for which the wisest cannot be prepared—or that there is a malignancy in some diseases which no human effort can counteract. But who will deny its positive utility? Look at the thousands whom, not only in tropical climates, but in our own country, it has saved from that fell destroyer of our race—fever. Look at the numerous inflammations it has checked or dissipated. Look at the tens of thousands whom it has saved from the consequences of vice.

A similar answer will apply, if we notice the remaining medicines. Their noxious effects (if any) are known—they are given under the high responsibility of this knowledge, and they are selected, notwithstanding this, because their effects are more certain, and their operation as kind, as those of vegetable substances.

But it would seem to be intimated that mineral medicines are incongruous to the human system, and a certain mysterious affinity has been imagined between it and vegetable remedies. The latter, it is asserted, are milder in their operation, produce healing effects more certainly, and are not injurious, like calomel, in their consequences. Are these assertions founded in a knowledge of the human body, and do the authors of the first idea know of what it is composed? Have they ever heard that a large proportion of the solid parts of the body are a mineral substance—the phosphate of lime? Do they know that iron enters into the composition of the blood?

But this is not all. Allow me to throw a rapid glance over these mild vegetable remedies—these substances that any man, after a day's reading, may administer. I have already enumerated two of them, opium and iodine. Opium has been raised in this state. It may be thus an indigenous product. Iodine may hereafter be extracted from the sea weeds on your coast. Now, a grain of narcotine extracted from the first, has killed a dog, and a few grains of the last taken daily for a short time, have destroyed a human being. Do you know of a substance which indicates its power over life by lessening the action of the heart with great rapidity—which reduces the rapid beat of the consumptive patient to comparative slowness? It is foxglove, a vegetable cultivated in many of our gardens. Are you acquainted with vegetables which will produce raving madness and convulsions—which inflame and destroy the texture of the stomach? The stramonium, cicuta, and wild parsnip will do this. They, too, are indigenous—they grow in our streets or lanes—or abound in our marshes. There is a substance which in small quantities convulses the palsied arm of the bedridden—the limb that has hung dead for years by his side. It is strychnine, a vegetable product. But, to crown all this—what is the most concentrated and deadly poison with which we are acquainted—which will destroy all species of life, from the snail up to man, with the rapidity of lightning—which has struck down the suicide in death, before he could finish the fatal draught? It is prussic acid—a vegetable product, that can be distilled from the leaves and kernels of the peach, or from the laurels that abound throughout our state.

And yet, after this enumeration, we have only gone through a portion of the noxious vegetable substances. Let not this statement startle any of my hearers. It may be laid down as an axiom, generally true, that, with the exception of some remedies in the classes of astringents and tonics, a vegetable is valuable as a medicine, in proportion as it is noxious in large quantities. In every botanical work, you find the remark, that those which are not possessed of some acrid qualities, are inefficient in their operation on the human system.

The question, then, presents itself to the mind of every enlightened man, whether those who have received an appropriate education—who have the stores of accumulated knowledge opened to them, are the safest persons to be entrusted with the care of the health of the community, or whether they shall be put on a par with such as claim instinct or self inspiration as their guides. Can these soldiers of Cadmus be expected to bring any useful spoil into the camp? Look at every modern work on the Materia Medica. We now know the nature of almost all secret remedies—chemistry furnishes us with the means of analysis, and, almost without an exception, they are the cast off prescriptions of the older physicians—neglected, because more eligible substitutes have been obtained—or abandoned, because their constituents were found uncertain or dangerous. That man will render a service to the community, who will furnish our public prints with the receipts for compounding these vaunted catholicons.

I rejoice, that, as your representative, I have been permitted to bear my testimony on this subject. I do not feel that the profession are to be the greatest sufferers. It will be the community—the country. The three professions at this day furnish the greatest proportion of educated men. Education is essential to the stability of the republic. Will it, then, be attempted to break down one of these professions? If so, the young men who now crowd its avenues, will seek other means of support—the old will retire in disgust from the thankless contest. The study of the collateral sciences, which has ministered so largely to the advancement of medicine, and which is beginning to give character to the nation, will cease. *The era of improvement in medicine will have passed away*, and the encomium of sir William Temple, quoted, and sanctioned, and applauded by De Witt Clinton, will no longer apply. "It is certain (says he) that the study of physic is not achieved, in any eminent degree, without very great advancement in the sciences; so that whatever the profession is, the professors of it have been generally very much esteemed on that account, as well as of their own art, as the most learned men of their ages."

Art. II. *An Essay on the poisonous qualities of some species of the Genus Rhus, of Linnæus: being an Inaugural Dissertation, submitted to the College of Physicians and Surgeons of the Western District of New York.* Feb. 1828. By Asa Christy, M. D., of Herkimer County.

Instances of poisoning by the different species of this genus of plants are not, in ordinary practice, of very frequent occurrence; yet there are some districts of country, in which it is found growing in considerable abundance, and the practitioner will sometimes be called upon to treat cases of inflammation induced by it, which, under an aggravated form, will occasionally baffle the most energetic and best directed mode of treatment. As far as my knowledge of the records of medical science extends, I do not recollect that any author has, as yet, taken that notice of this subject, which its high importance, in a pathological point of view, justly demands. The peculiar activity of the poison, and the well marked and violent symptoms of disease it occasions, render an intimate acquaintance with its nature and mode of treatment essentially necessary to every practitioner; and it may add somewhat to the interest of the subject, at this time, to state, that the author is experimentally acquainted with the nature of these vegetables, having been, at numerous times, severely affected by them. The results adduced are, therefore, purely the knowledge of experience; unmixed with hypothesis, and free from conjecture not founded upon reason.

The Genus *Rhus* comprises a great number of plants, distributed over various portions of the United States, both in the northern and southern departments. It is not uncommon to find numerous species associated together. They appear to grow most naturally on rich alluvial lands, though they may be found as well on the dry summits of mountains and rocks, as in the fertile soil of vallies. This is particularly the case with the region east and west of Little Falls, extending from Albany to Rome. In this locality there are *four* species found occasionally in small insulated clusters, and again spread profusely over those wet, loamy lands, called, in the language of the country, "*swamps*." I have observed them, also, at some distance from the Mohawk, growing upon those high, rocky precipices, which add such awful and terrific grandeur to the scenery of the back country.

The species to which I have alluded, are the *typhinum*, *glabrum*, *vernix*, and *toxicodendron*. These, as has been already stated, are frequently associated together; and as there is considerable resemblance in gěneral appearance, it is very important to be acquainted sufficiently with their distinctive characters, to determine the identity of each. The following brief description, will be minute and plain enough to enable any one to designate, almost *at sight*, their specific names. *Rhus typhinum*, leaves, petioles and branches, pubescent leaves, ovate, acute, remotely serrate; *glabrum*, resembles it precisely, except in not being pubescent; *vernix*, leaves, ovate, short, *entire; toxicodendron*, leaves, ovate, deeply toothed, or sinuate. In addition to this, it should be observed, that the *first*, *second*, and *third* species are shrubs, growing to the height of from fifteen to twenty feet, while the *fourth* seldom attains the height of four or five. The *entireness* of the leaves is a certain mark to distinguish the *third* from the rest; and the less elevated height, and, particularly, the toothed or sinuated leaves of the last, equally separate it from all. The importance of being thus familiar with the distinctive marks of these species, will be manifest, when it is known that, of the *four*, which we have described, only *two* are poisonous, viz. the *vernix* and *toxicodendron*. From experiments, made upon myself at different times, and from various opportunities, which I have had of investigating their effects upon different individuals, I am enabled to state this as the result of my experience and observation. Both species are highly deleterious, yet the latter is, if possible, more active than the former. Indeed, the far famed bohon upas, (if actually existing) does not possess qualities of a more remarkable nature; for there is an atmosphere generated around these plants, which, by simple inhalation, excites its peculiar inflammatory action in the system, attended by all its disagreeable concomitants.

These remarkable effects have been noticed by authors, though, perhaps, they have only been known where the plants themselves naturally grow. Bigelow, in his American Medical Botany, speaks particularly of their poisonous nature; Dr. Elliot also makes mention of it in his Flora; and Dr. Fresnoi, who wrote a number of years ago, M. Bose, Gomereaux, M. M. Gouan, and many others, all agree in giving it these deleterious qualities. Yet all these authors merely mention the fact, and take but a brief notice of it, probably from not having seen a case in which the *system* was seriously affected by it. In the Medical Commentaries, it is stated by Dr. Alanson, that in England, in some instances, sphacelation followed wherever the poison came in contact with the cuticle; and the Hon. Paul Dudley, in the Philosophical Transactions, (Vol. 31,) relates that the total loss of sight was caused by merely handling the R. vernix. He describes it under the name of the "Poisonwood Tree of New England." In addition to this, Bigelow states, that he has known individuals severely poisoned from the wood of it being accidently burnt on the fire in winter. Various other instances might be adduced, alike corroborating the statements already made; and we conceive that enough has been said, to prove that the subject is, in every point of view, worthy of particular attention.

There was formerly much difference of opinion, with regard to the manner in which the poison of rhus was communicated to the system. Van Mons expresses an idea that its hurtful effects are rather owing to a gas exhaled from it, than to its milky juice. This opinion is supported by the testimony of Fontana, who asserts, that, from experiments made upon animals, the juice was discovered to be innoxious. Bose, Gomereaux, and Gouan, however, state a different result in their observations, though they admit, that the gas, when not operated upon the by rays of the sun, possesses the power of causing vesicular eruptions, when inhaled. The testimony of Barton and Fresnoi might, also, be adduced in support of their opinion. The latter relates, that, on account of the violent effects of the juice, persons, employed in France to collect the R. vernix, had their hands covered with gloves to prevent contact with it. It will, however, in this place be proper to remark, that many who have investigated this subject, have done it imperfectly, inasmuch as it is well ascertained, that some peculiar temperaments are not liable to its effects, so that, applied to one individual.

either in the form of the juice, or inhaled through the lungs, it might not prove poisonous, whereas, in another of a different temperament, the most sensible effects might follow. In the observations, which I am to make, I hope to prove the truth of both of these positions, and show, by actual experiment, the manner in which this *native upas* makes its attacks upon the system.

In the autumn of 1824, a neighbor employed a number of workmen to clear a marshy piece of ground, situated upon the bank of the Mohawk. There were no trees growing upon it, nor were there any shrubs except the rhus vernix. These stood in large clusters, spread over probably an extent of an acre. The method employed to remove them, was simply to fasten a chain around a cluster, and drag it forcibly out. I mention this circumstance, as it affords a correct idea of the manner in which, at this time, the poison was conveyed into the system, for frequently, the chain slipping off, brought away the bark, when the peculiar and disagreeable odor of the plant was very perceptible. Of the fifteen or twenty persons who were clearing this marsh, most of them were severely poisoned, and, among the rest, was an individual, who, being merely a looker on, could only have taken it from the effluvium arising from the plant. With regard to the laborers, actual contact certainly rendered *them* most liable to its effects; yet, it is a circumstance worthy of particular remark, that no one, of the whole number, was so severely affected, nor so long confined, as the individual to whom I have before alluded. Here the affection evidently was caused by *inhalation*, and it was one of a peculiarly aggravated form.

The pathonogmonic characters, as presented in this case, shall briefly be recounted, and the mode of treatment pursued to abate the violence of the local and constitutional effects subjoined to the description. It will be seen that the disease, throughout its whole course, was one of extreme action, involving not only the cellular structure of the various parts, but also stupifying the sensorial power to a considerable degree, and prostrating the animal functions.

At the end of forty-eight hours a slight eruption was observable upon the wrist of the left arm. It consisted of little vesicles, filled with a transparent fluid, and giving the part a preternatural redness. A gentle rising of the cuticle was, at the same time, also visible. The inflammation was attended in the very commencement with a sharp itching sensation, somewhat similar to that which accompanies the severe forms of psora. The tumefaction, at first slight, gradually augmented, and in the course of fifteen or twenty hours more had extended up to the elbow. At this time the face also became inflamed. The swelling of the arm rapidly progressed, and in a short space of time became very great, so great, indeed, that the muscles of the limb lost nearly all power of action, and pronation and supination, together with flexion and extension, became exceedingly difficult. The tumefaction of the face, lips, and eyelids, at the same time, advanced, and became so exceedingly great, that the countenance was horribly distorted, and presented a frightful appearance.

The most remarkable symptom, however, attending this species of inflammation, and one which, from its frequent occurrence, may be said to be *peculiar* to it, is the excessive liability of the genital organs to become affected by it. In the case which we have been relating, the following remarkable appearances took place. The cellular membrane of the penis and scrotum became filled with a clear, translucent fluid, which, particularly in the prepuce, accumulated so much as to distend it to a great size, and when exposed to the light, had a semitransparent appearance. Puncture with the lancet, discharged but a few drops of this watery secretion, thus evidently showing that this accumulation of fluid originated not from local inflammation in the part, but that it was rather owing to the general affection of the system, which, having become exceedingly severe, threw out the effusion into the delicate cellular tissue of the part. This opinion receives additional weight from the fact, that there was no eruption about the genitals, nor was there the same itching sensation that was experienced elsewhere. It is, at any rate, a remarkable circumstance, worthy of farther investigation; for, as we can hardly admit, that the acrid fluid in the vesicles had been applied actually to the parts, we shall be unable to account for the effect in any other manner. If applied by the hand of the patient himself, it must evidently have occasioned eruption. But, as no eruption was present, it must be regarded, as before stated, as an effect of powerfully excited vascular action, throwing the fluids into a part of more delicate and weaker structure, than those around it. The appearance exhibited, was similar to that manifested in anasarca. The cellular membrane was bloated monstrously, and both the penis and scrotum became so excessively tender to the touch, that the patient was obliged to lie upon his back, and was unable, for the space of some days, to bring his knees in contact.

The constitutional symptoms were now considerably severe. The pulse was accelerated, and the tongue became covered with a white crust, accompanied by burning thirst. These symptoms indicated febrile action, and the attending physician, to allay them, had recourse to the lancet. Owing to the great tumefaction of the arms, it was impossible to take blood from them. It was, therefore, abstracted by opening the saphena vein, where it mounts over the ankle. A dose of sulphate of magnesia was exhibited after it, and mild, acidulated drinks were ordered to be freely taken.

The local application, at this stage of the disease, was an infusion of digitalis, a remedy which was particularly beneficial, as it diminished, very speedily, the increased action of the vessels of the parts, and abated the violent degree of heat present in them, by its evaporating effects.

There seems to be a peculiar tendency in the vesicles to run into suppuration, and there is seldom a case in which this effect does not take place. An examination of the inflamed parts, even as late as the twentieth or twenty-second day, will discover the existence of many vesicles that are filled with pus, while many others are seen just rising up, filled with their transparent fluid. When matter is formed, however, it may be regarded as a proof, that the most violent effects of the poison are over, and it will be most proper to discontinue the use of the astringent or evaporating lotions, and to apply plasters of simple ointment to the parts. In the case we were describing, this practice was adopted, and it gave immediate ease and composure to the patient. We shall, however, in the sequel, endeavor to lay down the most advisable rules of treatment, barely remarking here, that energetic measures are generally to be avoided, as they are not only dangerous in themselves, but the disease is of a character that will not very speedily yield to the most active means that may be employed.

The pursuance of the treatment, as already detailed, in the space of about thirty days, removed the tumefaction of the parts, caused the vesicles to disappear, and, finally, enabled the patient to leave his bed, which before he was unable to do without assistance. The cuticle of the hands, face, arms, and other parts peeled off, without leaving any disagreeable scars, though many little ulcers remained, which were not cured in a considerable length of time.

The foregoing, it will be recollected, is the history of a case, in which the poison of the *rhus vernix* was communicated by simple *inhalation.* I shall now proceed to relate briefly another, in which it was received by *actual contact;* and it will, perhaps, go to prove the superior activity of the *toxicodendron*—a plant certainly more common in this region than the other, and, for that reason, worthy of more immediate attention.

A young gentleman, while botanising, was attracted by the beautiful, fresh, green leaves of this plant, and, ignorant of its deleterious qualities, imprudently broke off a small branch, and touched his arm with the clear, pellucid juice that exuded from its extremity. No immediate effect was observable, but, at the end of two days, the part upon which the poison had been applied became inflamed and tumid. The tumefaction was circumscribed, probably not exceeding in size the point of the finger. Vesicles now sprung up in great abundance, and violent inflammation of the arm commenced. About the same time, an itching sensation was experienced in the "*glans penis*," and a fluid, of the same appearance as in the former case, began to collect in the "*prepuce.*" A strong solution of acetate of lead was immediately applied, and its use continued for twenty-four hours; but it had no sensible effect upon the disease. Infusion of digitalis, solution of muriate of ammonia, and various other applications, were all successively employed, but with equal inefficacy. Nothing seemed capable of checking the inflammatory action—it went on with unabated violence, until the glands in the axilla became swollen and painful, and the limb was greatly enlarged. The degree of pain excited was almost intolerable. There was a violent spasmodic action of the muscles, which occurred at short intervals, and the patient, not able to bear the weight of the arm resting on the pillow, seemed only to get a mitigation of his sufferings by walking his chamber and moving the limb violently to and fro.

The high degree of action that characterised the symptoms, led, very naturally, to the apprehension of some serious result; the application of a blister around the arm, above the inflamed part, was, however, soon followed by an effusion of a considerable quantity of fluid at the point of the elbow, and also by a mitigation of the most prominent symptoms. The tumefaction, nevertheless, extended over the left side of the thorax, and even to the middle of the abdomen. This case terminated favorably, also, in the usual time; yet the insidious *virus* remained for a considerable length of time in the system, which it finally abandoned, leaving it, however, more liable than before to suffer from its infectious influence. An individual who has ever been poisoned by it, should beware of coming within the reach of the effluvia, which, at some particular times, arise abundantly from both these vegetables; for there have been instances, where merely passing through a sumach swamp has been exposure sufficient to imbibe its influence; and persons have been known to declare, that the bare sight of the plants has, in themselves, been followed by disagreeable consequences.

From a view of the history of this disease, it will appear plainly manifest, that the poisonous qualities of the rhus may be introduced into the animal economy in *two ways*. *First*, by *inhalation*, through the medium of the lungs, and *second*, by the contact of any part with its juice. The *two* cases which I have detailed, furnish convincing proof of these facts.

From the general view hitherto taken, by writers, of this peculiar disease, it has most commonly been described as a species of *erysipelas*. Most of its pathonogmonic characters are, it is true, such as would, in strict nosological accuracy, place it under that order; yet there are some symptoms (and indeed these are the leading ones) which are far from being manifest in any form of that disease, as yet laid down in systematic works. Among these may be mentioned the excessive tumefaction of the face, lips, and eyelids; the peculiar and extraordinary affection of the genitals; the tendency of the vesicles to run into suppuration; and, to all these, the want of those dangerous symptoms which accompany the severe forms of erysipelas, such as the livid discoloration of the skin, the small, weak, and irregular pulse, the delirium and evidently excited state of the brain. For these reasons I am induced, as no specific term has yet been applied to it, to distinguish it by the name of *erysipelas a rho*, a term sufficiently expressive of its origin, and separating it from all the other varieties, described by medical authors.

As regards the *prognosis*, our opinion must altogether be governed by the *nature* of the symptoms. Yet, as few cases of mortality have occurred, it may generally be regarded as favorable. The presence of the eruption and tumefaction on the face is an almost unfailing concomitant, and we should not, therefore, regard these symptoms as threatening danger, so much as they would in the pure form of original erysipelas.

Admitting the disease to belong to the phlegmasiæ, the mode of treatment will be simple and obvious. Indeed, experience has established the correctness of an antiphlogistic plan, in its common forms. The malignant varieties are to be treated with remedies appropriate to the condition of the local and constitutional derangement. I have, however, never seen a case of so severe a nature, and shall, therefore, only describe the mode of treatment most advisable in its ordinary appearances.

In the very commencement of the disease, it will be most proper to premise a full bleeding, and administer some saline cathartic. A solution of acetate of lead should be applied with a soft cloth, repeatedly, keeping the inflamed surface almost constantly wet with it. In many cases this plan will alone be sufficient; but the disease not unfrequently will not yield to such gentle measures. We must, therefore, change our treatment, so as to resist it effectually. Accordingly, we ought to make use of evaporating lotions, such as the muriate of ammonia or infusion of digitalis. Cloths large enough to cover the whole extent of the diseased parts, should be dipped in one of the above applications, and suffered to remain until they become warm, when they should be taken off and reapplied.

A remedy, regarded by the Indians as a specific, is the root of the *solidago canadensis*, a plant very abundant in various portions of the country. The root is the part which they employ. It is chewed in the mouth, and the saliva rubbed upon the parts, as soon as any inflammation is present. A portion, also, of the saliva is swallowed. In this manner, I have been told, there is seldom a case that is not cured. The substance in question possesses pure astringent, with some mild stimulant qualities. The best way, probably, to employ it, would be in decoction. I have tried it in this manner, but I do not think it should ever be employed when better and well known articles can be procured.

The bichloride of mercury has been strongly recommended by Barton, and many others; but having never used it, I am unable to state any thing with regard to its curative powers in this painful affection. Recommended, however, by such high authority, it is undoubtedly worthy of attention.

The application of *blisters*, the beneficial effects of which were noticed in the treatment of the second case, is of high consequence. They will most commonly prevent the extension of the inflammation, and, by their stimulating effects, change the morbid action of the vascular system, and modify the increased energies which it exhibits. They should, therefore, never be omitted, when the remedies employed have failed in alleviating the urgent symptoms of the disease. Applied *above* the inflamed parts and as near to them as possible, their salutary effects will be more manifest and greater, than if applied elsewhere.

As regards the affection of the *genitals*, there is no application that will be likely to afford much benefit to it. It consists merely, as we have stated before, in an effusion into the delicate cellular membrane of the penis, which puncture with the lancet has failed to discharge, and various applications have been unable to alleviate. Soft cloths, dipt in some cooling lotion, are therefore the best, and indeed the only remedy which promises any assistance. They reduce the burning heat often present, and, particularly in the first stage, afford some ease to the patient. The accumulated fluid, as the disease remits in violence, is gradually absorbed, until the parts are restored to their natural healthy state.

Art. III. *Observations on the utility of continued or perpetual Vesication in the prevention of habitual Abortion. Read before the Medical Society of the City and County of New York.* By Lewis Belden, M. D., &c.

The following case, with the accompanying remarks and observations, it is hoped may serve, in some degree, to illustrate the utility of continued or perpetual blistering during the period of gestation, in cases where reiterated miscarriage is liable to occur. Mrs. W., a very worthy and respectable lady of this city, of temperate and regular habits, but of delicate constitution and enfeebled health, had suffered with repeated successive abortions. It will be proper to observe, that she had been attended by a physician of eminence and much reputed skill, previous to having been prescribed for by the writer of this article. It is presumable, therefore, that, while under his care, the practice pursued in her case, during the pendency of the unpleasant occurrence of abortion, was appropriate and judicious. Certain it is, the writer of this found himself foiled at two successive periods in his efforts to prevent miscarriage taking place. It would, perhaps, occupy too much time, to detail minutely the particulars of the practice pursued in this case at the time referred to. Suffice it to say, that great care and attention were bestowed upon it, to avert, if practicable, the threatened event; the prescriptions being directed with the intent of promptly meeting the morbid symptoms as they occurred. Venesection was practised but once, as there was very little febrile excitement present at any time; and, although judged advisable in that instance, it was not thought proper to repeat it, or carry it beyond a moderate extent. The effects produced did not appear to be very decisive. And, although it was not thought at the time to have been prejudicial, it was not deemed expedient, at any subsequent period, to repeat the bleeding. While pain and a bearing down sensation were present, rest and a recumbent posture were strictly enjoined, and anodyne enemata prescribed. It is, perhaps, here deserving of a passing remark, that this mode of administering opiates is much to be preferred, in certain cases, to giving them by the stomach, as they are apt, when so used, in most cases, to blunt the appetite, impair digestion, and create nausea; at times producing depression of spirits, and a temporary derangement, at least, of most of the animal functions. This objection does not apply, or, at least, but in an inferior degree, to administering opium by enema; especially if a due action of the bowels be maintained, by interposing suitable aperient medicines when indicated. Experience teaches that laudanum, when combined with mucilaginous substances, may be given by injection, to great advantage, in certain diseases, as in dysentery, for instance, when the most pernicious consequences might be justly apprehended from suffering the article to be freely taken in the ordinary form of an anodyne draught. The stomach holds so many important relations with the whole animal economy, and a due performance of its functions is so essential to health, and even life, that it may be regarded as the centre of action, or primum mobile of the system. But in fevers and febrile diseases, the secretions, not only of that organ, but of all the others in the body, are more or less diminished in quantity and deranged or vitiated in quality. Hence, suppressed perspiration, thirst, loathing of food from deficiency or vitiation of the gastric juice, scanty and high colored urine, costiveness, &c., and the crisis attending the solution of those diseases, are but the more or less speedy reappearance of natural or healthy secretion. We are well aware that there are seeming deviations from the morbid appearances or symptoms mentioned above, but these, as might be easily shown, are merely exceptions to a general rule. Deficient or deranged secretory actions, is the invariable attendant of fever and febrile disease, if indeed it be not the ipse morbus, the very essence of the disease itself. Whatever, therefore, tends to retard or suspend secretion, must augment the morbid condition of the patient. But opiates, especially when received into the stomach, along with other unpropitious influences, have this tendency. Hence, in certain cases, particularly in the advanced stage of fevers and febrile disorders, though we occasionally prescribe opiates by way of injection, yet we are averse, for the reasons recited above, to giving them by the stomach. If the rationale of febrile irritation, and the modus operandi of the medicine alluded to, be correctly stated, we arrive then at an important principle of practice in administering a valuable article of the materia medica; especially in safely extending its controlling influence, in certain cases where its soothing and tranquilizing properties are peculiarly desirable.

But to return from this seeming digression, to some farther remarks upon the case under consideration,—during the period of its progress and termination, at the times above alluded to, an attempt was made, in the third attack, to counteract the threatened symptoms by the use of digitalis, as recommended by Burns. Although this, and various other remedies employed, appeared to exert a favorable influence for a time, so that the event was retarded and averted from day to day, in the first instance, nearly two weeks, and somewhat more in the second; yet miscarriage ultimately occurred. The result was the more unpleasant, as strict attention, with due care and study, had been bestowed upon the case, that it might be safely conducted through the threatened aborting period. Correspondent efforts were also made to improve the intervening space between those periods, by suitable diet, regimen, gentle exercise, residence in the country, sea bathing, restorative and tonic medicines, &c., with a view to change or overcome, as far as practicable, the habit and constitutional disposition to reiterated miscarriage. To obviate the debilitating effects of hemorrhagy, which was inclined to be profuse at the times of aborting, cold applications, alum plug, pressure with the extended hand over the region of the uterus, tight bandaging, cooling acidulated drinks, &c. were employed.

It is here proper to observe, that menorrhagia, and leucorrhœa, at times alternating with each other, as is often the case with females subject to repeated abortions, were among the unfavorable occurrences succeeding each successive attack. To counteract their debilitating effect, astringent injections were used with great benefit. And we would here take occasion to remark, and hope it may not be deemed irrelevant to the subject under consideration, that strong and astringent washes, say of sulphate of alum, zinc, &c., often injected, and persevered in for a sufficient length of time, are the local remedies on which we place our chief reliance in treating menorrhagia as well as fluor albus. And, from attentive observation and experience in treating this kind of uterine hemorrhagy, we confidently recommend the practice to the favorable notice of our medical brethren, trusting that their success will repay a faithful and judicious use of the remedy. We do not recollect that this mode of treating the last mentioned affection is recommended in very strong terms by systematic writers; whether it is or not, we shall not stop to make reference or enquiry, as we humbly conceive it but the extension of a simple principle of practice, viz. the advantageous use of astringent local applications to excessive sanguineous, as well as profuse serous, discharges. And a similarity of practice is readily suggested, as we conceive, from the analogy existing between the two affections, from one passing at times into and terminating in the other, as in the case of certain irregularities and interchanges of the lochial with the menstrual discharge.

Now, as defects in the general constitution and impaired health, especially from irregularities of the menstrual discharge, ceteris paribus, predispose to abortion, so its occurrence is directly calculated to undermine the constitution, and enfeeble the general health. Hence, each recurrence of it has a natural tendency to render the disease more inveterate, until it becomes essentially habitual. This result is referable to an established law of the animal economy, in which we find, that any particular part of the system, having suffered from local disease, becomes, in most cases, peculiarly obnoxious to reiterated attacks of the same. And thus may be explained the liability to catarrh, pneumonia, hepatitis, rheumatism, &c. from time to time occurring repeatedly, in the same individuals. This principle of morbid action and local determination obtains especially in inflammatory affections, as well as in disorders resulting from too plethoric a state of the system. But it cannot fail to occur to the accurate observer of nature, that the process of reproduction in the female, together with a more or less plethoric condition of habit, induces also a change strongly analogous to what is denominated the inflammatory diathesis, or that state of the system in which, if sickness occurs, we may expect it to be of the acute or inflammatory kind. In accordance with this view of the subject, we find that idiopathic diseases, in pregnant women, are mostly of an inflammatory character, generally requiring strict antiphlogistic regimen, and active and prompt depletion, especially by the lancet. Aggravated and inordinate affections of pregnancy, (constituting a less degree of diseased action,) are in general best relieved by venesection, and by promoting a free, open state of the bowels, by mild, laxative means. The fact that the diseases consequent upon parturition are mostly of a highly inflammatory character, as puerperal fever, hysteritis, peritonitis, &c., plainly show, that the predisposition to acute inflammatory disease remains unchanged during that important and interesting period. And indeed the disposition, it may well be said, continues until or after lactation is fully established. Till then the blood exhibits unequivocal signs of the predisposition to which we have alluded. The condition of its crasis, its tenacity and buffy state, during the gestative and puerperal season, evincing a sensible change in the functional process of sanguification, cannot well escape the notice of the most superficial observer. Alterations in the fluids imply correspondent changes in the condition of the solids, their relations to each other being reciprocal and inseparable. The magnitude and relative importance, then, of the process of reproduction, during the gestative and puerperal period of females, must necessarily produce material changes in the modes of action and natural functions of the system, from the consent of other parts and organs with the uterus. But the sympathetic influence thus exerted, although it may pervade the whole system, is, nevertheless, far from being equally diffused: on the contrary, the systematic or secondary action produced, in certain constitutions and habits of peculiar irritability, at times appears to be mainly concentrated in some particular part or organ connected by association with the uterine system. This irritative action excited in parts or organs more or less remote, is variously modified by the peculiarities and habitudes of the portions of the system thus affected; constituting, when mild, some of the distinctive signs or characteristic symptoms of pregnancy; but, when inordinate and severe, especially if other causes concur to render them such, rightly denominated the diseases of pregnancy, and requiring at times the advice and aid of the skilful practitioner. It is a wise disposition of the animal economy, that when a particularly important part labors intensely in the performance of its functions, from inherent disease, some other part, or parts, are presently drawn into action, or consent, participating and sharing with it in the degree of irritation, which, if fully concentrated, and evolved in the part itself, might not only prevent a due performance of its functions, but even endanger the safety of the whole system. It is apparent, then, that the simple intention of nature in exciting this kind of action is, to relieve parts or organs which might otherwise be too much oppressed by functional derangement or concentrated disease. This transferred irritation, we conceive.

may very appropriately be denominated *vicarious action.* The primary effects of vicarious action when moderate, as has been already suggested are, salutary. And, moreover. when this species of action becomes excessive, misplaced, or retrocedent, with unpropitious or even disastrous consequences, its results, we conceive, are nevertheless rightly regarded as exceptions to a general rule. We might here illustrate our meaning, by referring to the symptoms and diseases consequent upon the process of dentition, upon affections and disorders of the stomach, and other parts and organs more immediately associated with it—to arthritic complaints, hysteria, and other diseases of common occurrence. But the subject is one of great extent, and would require, to illustrate it in any degree commensurate with its importance, much time and labor. Now it cannot fail to occur to the well instructed and experienced of the profession, that our art teaches how to imitate (if the expression be allowable) the kind of irritative action which we have denominated vicarious, by means of counter irritation, and the discharge promoted thereby. But as the natural tendency of the kind of counter irritating practice under consideration, if rightly managed, is to moderate action when excessive, and, by concentrating and fixing morbid irritation to a part or point most favorable for that purpose, prevent not only its excess, but hinder its aberrations and retrocessions; the suggestion appears reasonable, that its use might be advantageously extended to cases of habitual abortion occurring in constitutions of much irritability. That this inference is not hypothetical, the successful result in the treatment of the case already in part detailed, will in some degree tend to show. We therefore proceed with the same, by observing, that the patient having suffered severely from three successive abortions, and being threatened with a fourth, as was evident from the premonitory symptoms, and the common and generally approved routine of practice, hitherto faithfully pursued, having failed, it was thought advisable to make trial of the irritating effects of continued or perpetual blistering. Accordingly, a blister, somewhat less than the size of a half dollar, was applied to the leg near the patella. It was directed to be dressed with cabbage leaf to promote a free serous discharge; and when that should cease, to make use of the savine ointment, to keep up the irritation and discharge; and whenever the vesicated surface became in a measure healed, (as it had a strong tendency to do,) the blister was ordered again to be applied for an hour or two, and its reapplication did not fail to produce as free a discharge as before, if not more so.* Under this practice the patient progressed for some time as favorably as could be well expected. At length, however, we were sent for to visit her in haste, on account of the alarming state of the symptoms present. We soon found, on making the necessary enquiries, that the blistered surface had been neglected and suffered to dry up, from her attention at the time having been somewhat more than usually engaged with company. No time was therefore lost in advising the reapplication of the blister; and after giving other necessary directions she was left for the night. When visited again in the morning we were much pleased to find that the blister had drawn well, that the pains and other unpleasant symptoms had subsided, and that the patient was out of the imminent danger which, but a few hours before, had been threatening her. The relief indeed was so decisive, that had we previously entertained doubts of the efficacy of the counter irritating effects of vesication in the case, we could reasonably give place to them no longer. As the patient, a short time after this occurrence, was desirous of going to and tarrying awhile in the country, she was directed to keep the blister open several weeks longer; and, should any premonitory symptoms of abortion occur upon drying up the discharge, to reapply it immediately. Nothing untoward after this occurred in the case; and having gone her full time, she was safely delivered of a fine son. We have also the satisfaction of saying, that her general health has been greatly improved; and that she has since then passed through another period of pregnancy, and borne another healthy looking child, a daughter; and, that no appearances or symptoms threatening abortion have occurred during the time—the disposition or habit thereto appearing to have been completely removed, in consequence of her having been safely carried through the preceding period. It thus appears that a morbid habit was overcome, which, while it continued, rendered life itself rather a burthen than a blessing.

In conclusion, we would briefly state, that a respectable practitioner of this city, and a former officer of this Society, recently mentioned to us his success in treating an obstinate case of habitual abortion, by prescribing calomel and opium freely during the pendency of the threatening symptoms of attack, until profuse salivation was excited. This appears to be simply another mode of producing counter irritation. Of the propriety and applicability of such a remedy to common cases of practice, we are not disposed at present to speak. Leaving the subject to be canvassed by those more experienced and better informed than ourselves, we would merely add, that we entertain the opinion, that both the theory and practice in cases of habitual abortion admit of farther improvement. We cannot but hope, therefore, that what we have communicated in reference to the subject may be favorably received; and that, in a spirit of candor and impartiality, the scientific and judicious assemblage of medical practitioners, whom I have now the honor of addressing, would yield to us the favor of bringing our views and suggestions to the test of experiment, so that, if found correct, they might receive the sanction of experience and the weight of authority.

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* We would here take occasion to remark, that the benefit resulting from blistering is to be ascribed to the combined effect of the irritation produced and the free discharge promoted by continuing the blistered surface unhealed. The latter effect, however, appears to be but little taken into account; as the dressings usually employed are calculated speedily to heal up the vesicated surface. We believe this to be a capital error in the prevailing medical practice; for unless the discharge is fast giving away, the reason for continuing the irritation and its consequent discharge remains unchanged.

ART. IV. *Remarks on the increase of Stillborn Children and Abortions.* By JOHN JAS. GRAVES, M. D. *Read before the Medical Society of New York.*

IN the modern history of medicine, statistics has become a study of important and interesting consideration. Connected as the subject is with the internal policy of government, the physical improvement of man, and the amelioration in some respects of his moral condition, it is surprising that so little has been done by legislative enactment to promote its investigation. From the very nature of the study, statutory assistance must be given to make those facts attainable, which form the basis of all conclusions upon this useful subject; and yet how defective, especially in this country, are the means, and how necessarily difficult must be the pursuit of those researches which give certainty to this science, and render it as demonstrable as under proper conditions it is susceptible of being made. From the present mode of compiling the bills of mortality, and from the absolute want of a municipal registration of births, unsatisfactory and inaccurate results necessarily follow, and discrepancies appear, which must render the perfection of medical statistics extremely doubtful. It is not necessary at present, particularly to demonstrate the importance of this subject to the physician, as every member of the profession must already be aware of it. Nor need I remind those who are stimulated by curiosity or a love of improvement, or by the noblest feelings of philanthropy, that the field of investigation, obstructed as it is by many difficulties, is still open to them; where much is to be discovered that has been left unobserved by preceding enquirers, and which daily events, changes of customs, habits, and internal policy are ever varying or producing anew. Facts may here be gleaned, which forming inconvertible grounds of rational conclusion, may serve to illustrate the condition and probable continuance of the human race, finally remove much of the uncertainty connected with the science of medicine, and by a practical and correct application of the knowledge thereby educed, benefit, not only those immediately entrusted to our professional charge, but the interests of the community at large.

In the present communication, I cannot promise much that can be claimed as new or original; still, with the hope that the subject may be continued by older heads and abler hands, I ask the indulgence of the Society to the few observations I shall make on the subject of *stillborn children, abortions, &c.*

My attention to the subject of the present dissertation was first excited by observing the number of cases of *stillbirths*, reported in the weekly bills of mortality, not only in this but in several other of the larger cities in this country; and the impression arose that some cause other than ordinary must exist for their disproportionate increase; and I was confirmed in this idea by discovering that the same remark had been made in 1821, by an experienced accoucheur,* who ascribed the circumstance to a cause I shall notice hereafter. With the intention, therefore, of obtaining accurate information on the subject, I was induced to collect the official annual returns for several years, an abstract of which is here presented.

Year.	Cases.	Whole No of deaths.		Proportion.		
1818	159	3265	or	1	in	20
1819	168	3176	"	1	"	19
1820	189	3515	"	1	"	18
1821	174	3542	"	1	"	20
1822	205	3231	"	1	"	15
1823	223	3444	"	1	"	15

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* The late Dr. William Moore.

Year.	Cases.	Whole No. of deaths.		Proportion.		
1824	250	4341	or	1	in	17
1825	244	5018	"	1	"	20
1826	302	4973	"	1	"	16
1827	291	5181	"	1	"	20
1828	338	5181	"	1	"	15

The above table, it is to be regretted, is in one respect imperfect. It would have been desirable, indeed necessary for valuable purposes, that a table also of the mature and living births should at the same time have been presented; for then the relative expose might have been rendered as interesting and satisfactory as similar investigations have been made in other countries, where, from the statutory registry of births, accurate information is at all times attainable. When such documents may be collected, the comparative proportion of still and living births may be made not only valuable to the statistical enquirer, but subserve the interests of the civil economy of governments. Casper, in his remarks on the mortality of children,* has thus been enabled to give these proportions as occurring in various cities in Europe. In London and Vienna, they are in relation as one to twenty-four; in Stockholm, as one to thirty-six; in Dresden, as one to nineteen; in Brunswick, as one to thirty-three; as one to fifteen in Hamburgh; one to nineteen in Paris; and as one to eleven in Strasburgh. It is considered as established, that in the above places the chief causes of abortions and stillbirths are illegitimate pregnancies. But the civil regulations, whereby such information and comparisons as the foregoing may be gained abroad, do not obtain here. As there are no statutes connected with this subject, which may not without the least difficulty be avoided, the consequence results, that, from various and evident considerations, stillbirths out of wedlock are very seldom or never reported by the accoucheur. From the same authority we learn, that of the general average of births in some cities, "three per cent. of the children born in wedlock are born dead, but so many as fifteen per cent. out of wedlock." How great this proportion is here cannot even be conjectured at present, nor will the investigations of future enquirers be more satisfactory, while the miserable deficiency of proper regulations in our medical police continues to exist.

To return, however, to our table, it will be seen that the number of cases has far exceeded the proportional increase of the population of the city, (the number of cases reported in 1828 being more than double that in 1818,) and that there has been an increase of one fourth during the last two years. But while the foregoing comparison with the whole number of deaths has been made, it would be well that the distinction be borne in mind, as far as enquiries into the increase and decrease of population or the probabilities of life in this country are concerned. Death, as connected with the contingencies of climate and situation of country, is in a civil view somewhat distinct from the death affected no farther by such circumstances than as they influence the habits or constitutional peculiarities of the female.

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* See Ed. Med. and Surg. Journal, No. 88.

Incomplete, however, as these data are, we are induced to seek for causes capable of affecting in so serious a degree, not only the complete and healthy development and expulsion of the fœtus, but also the happiness of families and the health and safety of the mother. It would be of incalculable benefit could we with accuracy detect those causes, or ascertain how far mismanagement on the part of the accoucheur goes to the production of the evil. That culpability may be justly attached to the practice of some physicians, is very much to be feared; and while candor obliges us to make this confession, we do it, not with any intention of fixing the stigma of *criminal* ignorance or practices upon any member of the profession, but rather that our remarks may lead to the exposure, and perhaps correction, of an evil obnoxious to a special article of our medical ethics, and in its consequences promotive of the large number of cases of stillborn children. We refer here to a practice, which has obtained among some, of undervaluing medical services, with the intention of procuring patronage. Although "the reputation of being a *cheap doctor* after all is neither dignified nor enviable,"* still, at the sacrifice of dignity and a proper sense of the value of professional services, are there not some, of even respectable standing in other respects, who, with the hopes of increasing their practice, degrade themselves by their midwifery charges, to the level of the veriest crone who gains her scanty livelihood by the practice of this branch of the profession? And such physicians do obtain patronage, and to such an extent that, obliged to hasten from one case to another, they resort to means to secure their pitiful fee, by which the child is hurried into the world either dead or in a state of asphyxia, from which their press of business will not allow them to relieve it. Hence arise the mischievous consequences complained of, and such must almost necessarily be the result of an extensive and cheap midwifery practice; for tedious cases *will* occur; patience *will* from over anxiety be soon exhausted; and, when the calls of two or more females are urgent at the same time, *interest* will prompt to the use of means which will secure the fees of all. This is not fiction; nor is the unjustifiable resort to the means referred to a new thing in practice, for it did not escape the observation of that cautious and excellent practitioner, the late Dr. Wm. Moore, who was induced to believe that the increase in number of stillborn children was chiefly to be attributable to the premature use of ergot.

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* Medical Ethics.

This article, whose valuable properties were first discovered in this country, and for the proper appreciation of whose importance the profession are mainly indebted to the enquiries of a valued member* of this society, must ever be considered as an acquisition to the practice of midwifery, and a desideratum with those who are unaccustomed to the use of, or unprovided with, the forceps. Its use, unfortunately, like that of many other articles of the materia medica, is often perverted to the production of much and unpardonable mischief. It is unnecessary, at the present day, to enter into a dissertation upon the history, properties, and indications for the correct use of the ergot. For although (as may be seen by the English Journals) our transatlantic brethren are at least twenty years behind us in their practical knowledge of this article, still all the information connected with it has long been familiar to, or easily attainable by, every physician in this country. I will not, therefore, go into any examination of its proper application, nor of its abuse for criminal purposes; my intention by these brief remarks is to call your attention to the subject, as a fruitful cause of the increase of stillborn children, connected as it is with the disreputable practice of undervaluing medical services; whence it is too often prescribed not only as a *specific* to quicken uterine contractibility, but as a *specific* also for the impatience which must not unfrequently affect the physician, who, independent of his ordinary practice, is called upon to attend the confinement in childbed and subsequent medical treatment of five or six females in twenty-four hours.

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* Dr. John Stearns. This gentleman's publications on this subject, as they were the first, have also been considered as the most correct in their information and judicious on the application of the remedy. His papers may be found in the 11th and 12th vols. of the *N. Y. Med. Repository: 7th* vol. of the *New England Journ. of Med. and Surg.;* 5th vol. of the *Medical Recorder*, and 2d and 3d vols. of *this Journal.*

But, passing from this part of the subject, I shall next proceed to notice those causes, which, without the intervention of professional assistance, tend to the production of mature stillborn children, as well as to the expulsion of the fœtus previous to the completion of, or any time during its uterine existence. These may be divided into the *occasional* and *predisposing*. The first are those which incidentally occur without any predisposition on the part of the mother; such as sudden and strong excitement of the passions, injuries, fevers, &c.: these offer nothing particularly connected with our subject. The *predisposing* are those which, depending upon the health, habits, and modes of living, are objects of present investigation, as they may be regulated by the advice and management of the physician, together with the good sense and proper feeling of the female. Those causes, therefore, will be noticed, which are chiefly consequent upon the increase of luxury, the want of proper corporeal exercise, dress, indiscreet exposures, and irregularity of habits. These are the customary and deficient causes of those unhealthy and inconvenient discharges, and that irregularity of menstruation, for which the physician is so often called to prescribe. Affecting, as they do, the generative organs of the female, from her nubital age to the time when she usually loses her capability of conception, it must be obvious that although they are the effect most generally of constitutional debility, they also by reaction increase that debility, and, by the locality of the disease, particularly impair the tone of the vagina, the neck and even body of the uterus. But, although this loss of tone does not necessarily prevent conception, as that faculty depends especially upon the healthy condition of one or both ovaria, still it is evident that such a state of the uterus must very effectually prevent the full development of the fœtus, or, if the fœtal term shall have been nearly completed, of its expulsion in a lifeless or asphyxiated condition.

It is to be lamented that those disorders so detrimental to the well being of women, so well calculated to destroy the fulfilment of the duties of wife and mother, should in a great measure be superinduced by habits and education, often considered as the *purposes* of civilization and polished life. Authorities are not wanting to prove to us that the uncivilized female, and the simply educated countrywoman, are very seldom the subjects of menstrual derangements. With unsophisticated manners and habits, which in this respect are comparatively more beneficial than those refinements which tend to disease, they but rarely see their anticipations blighted at the very moment their travail is concluded. Their exemption from the fashionable and refined dissipations of high life and their consequent maladies, and the regularity with which all their uterine functions are performed, must prove demonstrative, (at least negatively so,) of another cause of the evils in question.

Of all the derangements of the female, there are none, I believe, which so seriously predispose to abortion as leucorrhea. From sufficient opportunities afforded by a long connection with a public institution, as well as by information collected from private sources, I have had reason to observe how very many women are affected with this inconvenient discharge.

It may be well here to notice the pathological condition of the parts in this disease, for, by properly locating it, it will be seen that the derangement may, if long continued. be equal to the effects just stated.

The particular seat of leucorrhea is a matter of some dispute. It has been referred by some to the uterus alone, and supposed to be dependent upon a morbid action of the same vessels which produce the catamenia; by others it has been ascribed to the lining membrane of the vagina, or at the utmost to the cervix of the womb. But the dissections of M. Blatin have shown the true sources of this discharge and demonstrated the extent of organic derangement which accompanies it. By these examinations we are convinced that it arises from an inflammation, more or less active, of the mucous membrane, not only of the vagina and the cervix uteri, but also of the uterus itself, and traces of such a state may sometimes be found in the fallopian tubes. This latter occurrence, is however, very rare. This is the most common state of these parts, but lesions are occasionally found, arising from tubercles and granulations which are the products of a diseased state of the mucous follicles of the inflamed membrane.

Consequent upon this particular disease, are a reduced condition of the blood giving to the face a cadaverous hue,* depraved digestion, or dyspepsia, and what specially concerns our subject, an inaptitude for the nourishment and retention of the fœtus. As the progress of the conception begun in the ovaria depends upon the state of the uterus, and chiefly upon that of the fundus,* that morbid condition of the whole organ which has been adverted to must render a successful issue of pregnancy extremely precarious.

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* Is it far from the truth to say. that the sickly and haggard appearance which foreigners have observed to be remarkable in the little advanced and married females of the American cities, is chiefly dependent upon the prevalence of fluor albus, which there is no hesitation in affirming, is far more common than is generally believed to be the case?

It is here to be regretted that the most palpable evidences of the tendencies of those habits which are so destructive of the laws of the vital economy and dangerous to the comfort and happiness of women, should be so constantly disregarded. In this respect, the mental and physical education of the generality of females is defective. At that period when the play of the passions is the strongest, the sanguineous determinations of earlier life being diverted from the cerebral and pulmonary systems, now exert that influence, which, after the commencement of the catamenia, not only prepares the generative organs for the performance of functions contributory to the continuance of the human race, but renders those organs extremely susceptible of excitement. To a tain degree, the occurrence of this excitement is not only not incompatible with, but necessary to health, but when too frequently produced, and that, too, by circumstances which may be avoided, it then becomes a subject of much future constitutional mischief. To the production of this effect, fashion lends her powerful aid, whether it be physically or mentally, by heating drinks, stimulating condiments, or luxurious and indolent living in general, or indirectly by an improper personal display, and that nice attention to those striking characteristics of the female form, which betray the subject of honest though somewhat indelicate thought, or, by devotion to the fashionable works of fiction, which minister to the luxuries of an empassioned imagination; for all these are equally causes of those increased excitements, which are so productive of the disorders here spoken of. Constant irritation or excitement of any organ must result in an equally general and morbidly excessive impetus of blood to the part; hence arise the passive inflammation and occasional lesion already mentioned; hence are superinduced all those morbid actions, which, under the name of leucorrhea, amenorrhea, &c., not only prove essentially injurious to the generative function of the uterus, but finally, I believe, may produce a force of habit capable of completely perverting its necessary and curiously devised intention.

The results in question may also be effected by another cause; violent pressure about the region occupied by the uterus must, if long continued, not only produce present evils, but ultimately lead to a habit, rendering the progress and proper termination of pregnancy extremely problematical. If this pressure is made with the intention of affecting or concealing the mother's situation, the enlargement of the uterus is obstructed, and a disposition for aborting it is believed may be thus acquired, induced by a debilitated condition of the distending power of this organ. All contrivances connected with the fashionable apparel of women, as steel wood or whalebone busks, or the tight and powerful lacing of the stays, must, it is obvious, prove injurious. It is true, they are sanctioned by long use, and the slightest suspicion of any mischievous consequences arising from the custom is considered as ridiculous; but still, I cannot hesitate to attribute many of the uterine disorders, both of the married and unmarried female, to the immoderate pressure exercised by this part of her dress upon the uterus and adjoining region.

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* Denman.

In conclusion, I may remark that this subject appears to be one of important enquiry to the physician, to the statistical philosopher, and to those who are entrusted with the mental and physical education of women. And here I may ask if it be not a matter of surprise, when consequences so pregnant with serious mischief should originate from causes capable of being avoided, still the exposure of her health and comfort should so often be made by the female? It is true, there is a sense of delicacy which induces her to conceal her peculiar disorders, and there is too often a heedlessness which leads her to neglect them in their progress until their effects attract the attention of others; this we can easily comprehend, but nothing can palliate that vitiated and miscalled refinement which is associated with fashion, and which is a fruitful source, as I have attempted to show, of those several disorders and lamentable results which are the subjects of our remarks.

In the department of medical police, I need not say how much room there is for improvement. Until civil regulations shall be made, which may enable us to arrive at those facts which are the basis of medical statistics, we can scarcely expect satisfactorily to *demonstrate* those points where this improvement can certainly be effected. We may safely, however, recommend for this purpose a registration of all births, whether of living or of stillborn children, of the sex of such children, and of the fact, whether they are the product of legitimate or illegitimate conception. There may be objections raised against such a registry, inasmuch as the happiness of families may thus be often destroyed by the record of facts which it would have been better to have concealed from the world. But under proper regulations, I conceive that such objections might be easily obviated. Only let the enquirer come at the general and *true* facts, and the particular secret might be kept undiscovered. To more experienced heads, however, I must leave the labor of the procurement of those municipal regulations which this important and (as it has been justly called) "*fascinating*" science of medical statistics so imperiously demands.

ART. V. *An Essay on the Influence of the Imagination upon Diseases.* By F. O. DOUCET, M. D., of New York.

"THE first and most difficult step," says Buffon, "towards acquiring a knowledge of man, is to understand very clearly the nature of the elements of which he is composed."

"Diseases," say Frennus and Senert, "are not the immediate effect of the imagination, for if they were, one would have only to think that he labors under a fit of the gout or of the gravel, to be really affected with these diseases; but diseases are the immediate result of the movements which the imagination excites in the living body; and these movements are most usually the passions." The passions, then, being the means employed by the imagination to modify the state of life, their history will form an essential part of this essay. Perhaps the opinion thus advanced of the important agency of the passions may appear too bold; or, I may be told, in the language of a number of physiologists, that the passions are entirely dependent on organization; that the temperaments are their determinate causes; that they disturb the internal functions only; and that the intellect has absolutely nothing to do with them. (Crighton, Cabanis, Fodere, Bichat, &c.) Such opinions would give to the physical, an undue influence over the moral, constitution of man. They tend evidently to blend them them together, and have for their principal foundation some particular circumstances which have been too much generalized. If organization were the only requisite to the existence of the passions, why not allow them to vegetables as well as to man? And, moreover, if nothing is required but inferior organs, which, according to Bichat, are the limits where they terminate, as well as the centre whence they emanate, why is the brute creation so generally free from them? Do they not possess, as well as man, a heart, a stomach, a phrenic centre?

Will any one pretend to say that the varieties of the passions uniformly follow the several varieties of age, sex, constitution, and climate, which evidently act on our physical nature? This may be generally true; yet the passions do not always increase with age, neither is the most vigorously organized sex the most subject to their sway. Piquer and Barthez observe that we ought not to concede too much to the relation between temperaments and moral affections, and the observation is very just; for, do we not see every day many individuals whose passions are changing without any alteration in their temperament, and their constitution altering without the least change of the passions? Again, it would be an error to concede too great a share of influence to climate in the production of the passions. The Swede is more like the Portuguese, as to his moral character, than the Laplander; and the Portuguese has hardly any moral resemblance to the African. Besides, does not the same climate very often present the most singular variations in the character and passions of its inhabitants? What a difference is there between the Greeks of our days and the citizens of ancient Athens and Sparta! "The soil of Greece and Egypt," says Barthez, "remains the same, but the barbarity of their rulers has annihilated the courage and genius of the people." The influence of climate is not, therefore, as Montesquieu pretends, all powerful.

No one will undertake to say that diseases, in altering the state of our organs, do also produce a change in our passions. No one will pretend, with M. Richerand, that copious bleeding will deprive the intrepid warrior of his courage. The soldier weltering in his blood desires nothing but slaughter; and, according to the great Bossuet, a martial soul has always a perfect command over the body it animates.

It is not, therefore, the organization modified by sex, age, constitution, climate, or diseases, which determines the violence of our passions; it can be nothing but the greater or lesser exaltation of the imagination. "Every being," says Rousseau, "sensible of his relations, must be affected by the alterations of these relations, or by the conception of any others more suitable to his nature." (Emile.)

It would be interesting to trace the development of the passions in living beings, from the animal most destitute of instinct, to the most perfect human intellect; one would soon perceive that this progress is in proportion to that of intelligence—hence it would be easy to prove that men of great souls are susceptible of great passions. The same hero, who, in his youth, conceived and executed the project of subduing the whole of Asia to the yoke of Macedonia, has himself been overcome by the impetuosity of his passions. The immortal bard of Armida, lingered through many wretched days, embittered by a hopeless passion; and one single word of Louis the Fourteenth hurried to his untimely grave the prince of French dramatists.

The activity of the imagination is then the cause of the violence of our passions, and how could this be otherwise? Nothing but what makes a strong impression on the imagination can excite ardent wishes; the passions, therefore, must be the livelier as the imagination is the more exalted.

It is in vain that the artful beauty attempts to conceal from her admirers the treasures nature has lavished on her. Imagination easily tears off the veil, and exaggerates her charms the more as they are the less exposed.

These are undoubted truths, which it would be here supuperfluous to notice, were not many modern works on physiology in direct contradiction to them.

Whence, then, can originate the opinion so generally received, which locates the seat of the passions in the internal organs? Is it not, as M. Richerand says, from mistaking the effects for the cause, in confounding the appetite with the passion which it creates? The imagination, when under the excitement of the senses, reacts on such organs as are affected by any particular passion, and the abatement or increase of the excitation of this organ is the result, and not the cause, of the passions. The agitation of the blood in anger, the sudden paleness of the face, and the oppression of the epigastrium in terror, can never take place until the impression made on the senses is actually imparted to the imagination. We must conclude, then, that it belongs to the imagination alone to transform into passions our sensations, our appetites, our several wants, and thus produce in the machine alterations more or less marked. These operations may be either salutary or hurtful to the human economy, and consequently apt to prevent or produce diseases, to assuage or aggravate their symptoms, and, at last, to bring on a happy or fatal termination.

But it is not only through the excitement produced by the passions, that the imagination influences the living body; it can, besides, modify all its phenomena in arresting the progress of that excitement. In the first case, this influence is more dangerous than useful; in the second, it is almost always salutary.

There are other circumstances in which the imagination seems to summon to its aid all the other faculties of the understanding; when, wholly absorbed in the exclusive subject of its contemplation, the thinking being seems as if completely detached from the body, which, in such a case, manifests no other phenomena of existence than such as are analogous to vegetable life. This state is what has been designated by the appellation of exstacy, and has been often erroneously considered miraculous and supernatural.

What shall I say of the power of the mother's imaginagination over the fœtus? So many observations seem, on the one hand, to prove the existence of that power, while, on the other, a crowd of arguments appears in such a formidable array against it, that I shall offer nothing but my doubts on this subject.

Imagination, however, in producing or resisting diseases, influences the animal economy in the four following ways: —first, it excites the passions; secondly, it checks and prevents their operation; thirdly, it isolates and frees itself from their bonds; and fourthly, it produces alterations in the conformation and disposition of the organs. In all these cases the effects resulting from its influence are either noxious or salutary: the imagination then must be considered, first, as a cause of disease; secondly, as a curative agent.

SECTION I. *The Imagination considered as a cause of disease.*—The passions are to be considered as most generally the offspring of the imagination—a faculty which exalts man above the rest of creation, adorns the spring of his days with the most seductive illusions, comforts him in his old age with the remembrance of his former enjoyments, and often cheers him even when on the brink of the grave. This faculty, I say, may sometimes be the cause of the most lacerating griefs, and even of the most deplorable death. Let one only glance at the sinister effects of the passions, now suddenly breaking asunder the springs of the human machine, then secretly undermining the whole fabric, and finally, terminating the long agony by its destruction. The influence of the passions, too, is so generally pernicious, that few malignant diseases perhaps exist, as Dumas boldly asserts, whereof the cause cannot be traced to some strong and violent passion.

Of all the passions to which human nature is subject, no one, perhaps, is better calculated to demonstrate the power of the imagination than terror; no one, therefore, produces a greater number of diseases. The medical records, as well as the general history of all ages, are replete with most afflicting instances of this. Here you see a whole people petrified with fright at the sight of the Eumenides rushing on the stage,—children are fainting and dying, women miscarrying, and the whole theatre of Athens transformed into a scene of desolation. There, in the dark recesses of a dungeon, you see a young and vigorous man exhibiting, in the course of a single night, a bald and hoary head, the sad but respectable appendage of old age. Now, a criminal falls dead at the feet of his judges, on their pronouncing his condemnation; and again, a woman of tender feelings is suddenly seized with a fit of catalepsia, on receiving some fatal intelligence. Such instances, although frequent enough, are not sufficient to give an adequate idea of this affection; it is during the prevalence of a pestilence or epidemic that one can observe its ravages in all their force. It has been observed by all practitioners that these diseases seize with fury upon timorous and susceptible persons; that the ties of blood and friendship are, as it would appear, the magnet which attracts the contagion. Shall we join Grimauld in the opinion that it is the effect of a particular sympathy uniting different beings? Is it not much easier to ascribe it to the influence of the imagination? Is it not natural to suppose that the idea of death more sensibly affects the parents or friends of the sick than strangers, and thereby predisposes them to contract the contagion with more facility? If from epidemics in general we pass on to the sporadical or special diseases, we shall find that fevers, phlegmasiæ, hemorrhagies, each and all signalize the influence of terror. But it is in the production of organic and nervous diseases that its influence is especially displayed. Corvisart and Dessault have not failed, during the French revolution, to make this observation in relation to the organic affections of the heart, of the liver, and of the lungs. The works of Tissot, Baglivi, Whytt, Barthez, and of many others, sufficiently avouch the multiplicity of nervous diseases which it daily produces. The imagination, while the influence of these terrible passions is raging, may, by its reaction on the cerebral functions, produce epilepsy, catalepsy, melancholy, mania, &c.; if affecting the locomotive or sensitive systems, it then may produce paralysis, deafness, aphony, and a number of similar affections. I could here cite a multitude of such cases; I will, however, confine myself to one or two: the first may easily be verified, the subject being yet living.

In the vicinity of Montpellier in France, a young, tender, and delicate girl was gathering mulberry leaves for the nurture of silk worms. All at once two snakes, in their pursuit of one another, rushed on the tree; creeping on the branch which supported the young villager, they entered one of the sleeves of her gown and writhed themselves around her arm. Seized with fright, she screamed, fainted, and fell; her companions ran to her assistance, and, with the greatest horror, saw the two snakes emerging from her bosom. She was soon taken to her home, where, by the cares lavished on her, she was at last restored to life. But from that very moment, her imagination, continually haunted by that terrible scene, became almost wholly insensible to surrounding objects. Every month brings on a periodical fit of hysteria; and, by incessantly feeding her mind with religious and mystical ideas, she exhibits in her fits something very similar to a religious mania. At times she will whirl on one foot for a considerable while, uttering incoherent sentences from some religious books, while her limbs, and indeed the whole of her body, exhibit an evident state of convulsion. Her fits are now recurring every fifteen days, and sometimes every week, and her sustenance, in the interval, is often nothing but sugar and water. All these phenomena, together with many others, either real or imagined, had such an effect on the credulity of the vulgar, as to cause them to consider as incontestible miracles, that which the physician naturally classes among the symptoms of a nervous disease, which in itself is nothing but the offspring of a lively and excited imagination. It is, perhaps, a most surprising fact, that her disease should not have affected many young persons who have witnessed her fits, and therefore become contagious by imitation, as is often the case in hospitals containing epileptic patients.

The following case of the most extraordinary effect of the power of imagination, is taken from a New York newspaper.

> "Mr. Elijah Barnes, of Pennsylvania, some years since, while at work in the field, killed a rattle snake, and immediately after had occasion to return to his house, and took, through mistake, his son's waistcoat and put it on. His son was but a youth, and the waistcoats of both father and son were from the same piece of cloth. The weather being warm, the old gentleman did not attempt to button his waistcoat until he had arrived and seated himself in his house; when, to his astonishment, he found it much too small. Imagination now took wings, and he instantly conceived the idea, that he had been bitten, imperceptibly, by the snake, and was thus swollen from its poison. He grew suddenly ill and took

his bed. The family, in confusion, as not a minute was to be lost, sent a messenger, post haste, for three physicians. The first that arrived poured down oil, the second drenched him with the juice of plantain, and the third gave him freely the decoction of hoarhound. But notwithstanding all these medicines, the patient grew worse and worse, every minute, until, at length, his son came home with his father's waistcoat dangling about him. The mystery was instantly unfolded, and notwithstanding the oil, plantain, and hoarhound, the patient was immediately restored to health, except that he felt a load on the stomach."

To what other causes, than the fear of imaginary danger, can we ascribe the singular phenomena of tarantism, which has often been observed in Italy? The tarantula has been considered, in certain parts of Italy, as a very venomous insect; therefore the fear of its bite is so powerful that it might of itself have produced symptoms more or less violent. But music, by dispelling this fearful idea, never fails in arresting the development of its symptoms. And so, in these climates, the horror which the idea of snakes naturally inspires may sometimes render their bite fatal, although nothing is less dangerous. Why should we not attribute the popular belief in fascination to the same cause? Truth now begins to dispel the illusion; people of sense no longer dread the treachery of the Triballian eye, or the sinister looks of envy, or the praises of friends or foes, or the contact of witches, or the power of pretended magicians; and yet, the greatest part of these fears are inveterate among the ignorant. Pregnant women are yet to be found who dread the meeting of an old woman, or of some stupid animal. So we find young married people, who, meeting with some natural or imaginary obstacles to the accomplishment of their wishes, ascribe their unpleasant situation to a foolish witchcraft, which never existed but in their heated imagination, full of chimerical apprehensions, or highly excited by the excess of passion. Are not all the ideas of incubi and ghosts the evident effect of fright? It is to be hoped that time and the progress of knowledge may, one day, triumph over all these whimsical superstitions.

If the affrighted imagination can exercise such a fatal influence over the human economy in a proper state of health, if it can so rapidly produce diseases of such a serious nature, and even sudden death, what then must be the rapidity of its effects in such diseases as already exist, or which are ready to break out upon the least exciting cause. What influence on their symptoms, their crisis, and their termination? In fevers, phlegmasiæ, and all acute diseases, how often do we see unpleasant news, an indiscreet word, the unseasonable approach of the ghostly father, or the untimely display of religious ceremonies, distracting the mind of the patient and accelerating his dissolution!

It is principally in developing the action of certain poisons that we can observe, in its full extent, the power of a timorous imagination over the organization. The venom of the plague, and inflamed wounds, offer repeated instances of it. The smallpox is much more dangerous in adults than it is in children, and still more so in those of the sex to whom the fear of losing a transient beauty is sometimes more fatal than the disease itself. This influence is so remarkable in hydrophobia, that a modern author, (Borquillon,) does not hesitate to deny the presence of a rabid virus, and to attribute the existence of this disease to imagination alone. This opinion is undoubtedly erroneous, but it is more than probable that this disease might be sometimes prevented, were it always possible to control the imagination of the patient.

I should be inexcusable were I to pass over in silence the power of the imagination in chirurgical operations. It is then that you see the terrible parade of fire and steel filling the soul with the most lively emotion, and distracting the imagination with the most frightful ideas. Only imagine a patient in a hospital, whose wound renders amputation indispensable; he has seen the same operation performed on one of his wounded comrades; he has heard his piercing cries; he has seen his painful struggles against excruciating pains and death; he has witnessed his last agony; what!—the livid corpse is perhaps still by his side; and yet he must submit to the same operation, or suffer death! Is there any situation more terrible? If the operator is not very careful in removing from his mind all these fatal objects,—if, by mildness and persuasion, he does not know how to appease his imaginary fear, what success can he expect from an operation performed amid the most horrible pangs and perplexities? Yes, I say it boldly, unless nature has endowed him with this rare talent, let him pursue another vocation, and forever renounce the use of chirurgical instruments.

In sorrow, the excitement of the imagination is progressive—the machine gradually wears out, exhibiting, at first, paleness and dejection, and yielding, sooner or later, to consumption and death.

When the wretched being, whom the caprices of fortune have torn from his paternal roof, ruminates upon the delights of his native soil, incessantly making painful comparisons between its endearing charms and the dreary solitude of the remote land he is fated to inhabit,—his soul becomes the prey of sorrow, and nostalgia, which, at first, was nothing but a sweet remembrance, soon degenerates into confirmed melancholy, which rapidly carries him to his grave, or causes the alienation of his mental faculties. The loss of a beloved object, the privation of such pleasures as were either prospectively or actually enjoyed, the daily irritation of the imagination by the unwearied injustice of man,—often disseminate, in the feeling heart, the seed of all diseases, but particularly of those of the mind, from the softest melancholy to the highest degree of maniac fury.

Here, I may perhaps be told, that it is nothing but the melancholic temperament which influences the patient's imagination; in support of which, the cases of Tasso, Pascal, Zimmerman, and Rousseau, will undoubtedly be cited. The habitual melancholy of these great men will be attributed to an excess of blood causing obstructions in the branches of the vena portarum, or in the abdominal viscera; but, without absolutely denying this influence, which really exists in certain cases, may I not answer that these melancholic temperaments have been the consequence, and not the cause, of the wandering of the imagination? Does not Rousseau himself supply me with an answer, when he says, "The blade wears off the scabbard: this is my history?" And before he gave himself up to literary pursuits—before he became the object of envy and persecution, had he, forsooth, manifested the least appearance of a melancholic temperament? had not his life, on the contrary, exhibited all the marks of a sanguine constitution, directly its reverse? Is it not to his unfortunate love for the duke of Ferrara's sister, that Tasso owed the long melancholy which slowly wasted him? Was Pascal afflicted with melancholy before his horses dragged him on the brink of the Seine, where he narrowly escaped submersion? Did Zimmerman ever thirst for any thing else but glory before the French revolution had deeply affected his wavering imagination, when he foresaw its disastrous consequences to his country, Switzerland?—And, if, according to Tissot, the melancholic temperament is to be considered as a disease, is not that disease really produced and fed by the imagination? What I say of the melancholic, is equally applicable to the nervous temperament. I do not intend to discuss here the nature of this temperament, but it seems to me that this term is often improperly used, and that what is called, in diseases, nervous influence, is, in certain cases, nothing but moral influence.

Much more rapid in its progress, as well as more terrible in its effects, anger bewilders the imagination. The authority of Galen, Ennius, Cato, and Seneca is not wanting to prove that anger is a temporary mania, which invades the mental faculties and increases to an extraordinary degree the muscular strength. Unless reason can retain its power over the imagination, man can no longer control the emotions it excites in the sanguineous fluid; his internal powers are, as it were, suspended, and he puts forth all his strength to repel the object of his wrath; and this exuberance of life, this great disorder of the circulatory system, may not only produce very serious diseases, but may also cause sudden death. The actor who personates a character in that state of temporary delirium, suffers himself to be so far carried away by his imagination, and exerts himself so much to express the earnestness of his imaginary situation, that he has often fallen a victim to the attempt of this truly dangerous part. Lucian mentions a celebrated actor, who, representing the part of Ajax in a rage, actually fell into an incurable mania. Montfleury paid, with his life, for the efforts he made to personate the character of Orestes in Andromache; and many other instances of the kind might be mentioned. In this tumultuous agitation of the vital functions, all the humors may acquire a deleterious property; the saliva may sometimes communicate hydrophobia, and the nurse's milk may prove a violent poison to her foster child. A fit of anger has often ended in epilepsy or apoplexy, and thus, by suddenly overburdening the brain with blood, caused death in a day, in an hour, and sometimes instantaneously. When the individual withstands the shock, palsy, mania, or idiotism are generally the fatal consequences of such a fit of frenzy. A soldier, wounded in a duel, saw, a few days after, very unexpectedly, his more fortunate antagonist; his cicatrised wound instantly reopened, and a terrible hemorrhagy hurried him to his grave. (Fabricius Hildanus.) What will be the consequence, then, should a violent fit of this passion seize a patient, whose circulation a burning fever, or acute phlegmasia, has already inflamed? Will it then be possible to observe the crisis, calculate the periods, and foretell, with precision, the result of the disease?

Although diametrically opposed to anger, joy often produces accidents which are not less to be dreaded. Galen has even observed that its access is a much more powerful cause of sudden death than that of any other passion. The names of Zeuxis, Philippides, Sophocles, and Leo X. may be here mentioned as its victims. I only glance at these well known observations of ages, but I cannot forbear, however, noticing more particularly the effect of love, in which the imagination acts so conspicuous a part.

In considering this passion as the cause of disease, what a multiplicity of intermediate gradations do we not find in the divers affections which it produces? What prodigious distance between the simple palpitation of the heart and nymphomania! between the interesting paleness of chlorosis and the last stage of phthisis! The material causes which belong to the formation of the parts, says Roussel, have been too much insisted upon, and it has been forgotten that an infinity of moral causes holds control over our mind. The organs of generation, in awakening the imagination, undoubtedly, contribute often enough to the formation of diseases; but unless we restrict the passion of love to the mere physical inclination which one sex feels towards the other, it will be seen that these organs are often secondarily affected. If the reading of romances, if obscene pictures, if licentious exhibitions were not incessantly presenting to the mind voluptuous images, would we see so many young persons wasting the spring of their days in erotic melancholy, or bursting asunder all the bonds of pudicity, and manifesting the most horrid symptoms of despair and of nymphomania? No one will deny that epilepsy, palpitations, and vapors are much more common in cities than in the country; and, besides, is not love itself, sometimes, a disease of the mind, which has been designated by the name of erotomania? This affection is at first disguised, carefully concealing itself under the mantle of modesty; but, attaining its highest degree, it breaks out, and, if thwarted in its object, ends in mania or death. Such is the fate of all too sensitive hearts; such has been that of Tasso; such has been, of old, that of the unfortunate love of Sappho: for a long while she endeavored to soften Phaon by the most supplicating intreaties, and the most passionate verses; at last, wearied with useless moans, she flies to the Leucadian rock and puts an end to her existence, as well as to her torments. There exists another kind of erotomania, entirely foreign to the union of the sexes; here, the imagination of the lover is exclusively filled with the object of his adoration; often it is a form of beauty, the creation of a dream, the image of which remains deeply engraved on the mind; he addresses her as if she actually was present; he contemplates her with admiration, and his chimerical ideas constitute either the happiness or the torment of his life. Such was Pygmalion's passionate admiration of the statue of Venus, which was the work of his own hands; such is Ovid's description of Narcissus; such is Plutarch's history of Eutelidas, who fell a victim to his love for himself! A curious instance of this affection of the imagination occurred not long since in Paris. A young girl went to hear one of the most celebrated preachers; she was at once so taken up with his eloquence, that she could not resist the impulse of her passionate feeling. Her singular passion soon turned into erotomania; she did not for one moment hesitate to think that her love was reciprocated by the object of her adoration; she actually imagined cohabitation with him, and finally persuaded herself that she was in a state of pregnancy. She spent two years in preparation for her lying in, and this pretended pregnancy ended at last in a most decided madness.

Must we add to these melancholy results of the passions, those produced by hatred, ambition, jealousy, and revenge, which may also be described with propriety as under the influence of the imagination, and which daily fill the hospitals with frantics? I had occasion, says Zimmerman, to visit the great hospitals of Paris; I there found three kinds of maniacs; men who had been made so by pride, girls who had been driven to it by love, and women by jealousy.

If there is a disease to be dreaded more than all others, it is the fatal propensity to self destruction. The wish of self preservation is so natural to man, that suicide ought to be considered as the effect of an incipient alienation of the mind: this delirium may, undoubtedly, be the result of an organic defect of the brain or of its sympathetic affection with other organs; but it results much oftener from moral causes, chimerical ideas, or fatal prejudices which distract the imagination. In revolving continually the misfortunes which already overwhelm or threaten our existence; in exaggerating the infamy which certain prejudices attach to certain situations or actions which in themselves ought to appear insignificant, the imagination overpowers that innate sense which watches over self preservation, and produces the conviction that death is preferable to a life replete with misfortune. It was by this conviction that the dagger was placed in the hands of Brutus and Cato, of Arria and Lucretia. It is by this conviction that the Japanese is induced to rip open his bowels in the presence of his abuser, and the insulted Frenchman, to blow out his brains if he cannot wreak his vengeance on his insulter. I might here mention the innumerable victims of ambition, of luxury, of disappointed love, of celibacy, of religious or patriotic enthusiasm; I might swell this work with a host of observations, but every one may easily recur to them. Phenomena are, however, presenting themselves in crowds before us: behold that enthusiast, all wrapt up in himself; see how totally absorbed he is in his profound meditations; he is insensible to all external objects; as long as his imagination remains under the control of his reason, his sublime ideas bear the stamp of genius; but so soon as the equilibrium is destroyed, and that the first of his faculties has (if the expression may be allowed) broken asunder its bonds, his imagination ascends to the celestial regions, the phenomena of feeling and motion are suspended, he becomes insensible of his existence, and this extatic rapture affords him a pure and inexpressible delight—a state perfectly analogous to that slumber which a deceitful dream adorns with all its chimerical illusions. Dante gives us a happy description of that state, which, no doubt, he had experienced himself, (vide Purg. Cant. 17.) We thus see how little removed the meditations of genius are from reverie; there is one step only from the one to the other, which once gained, the extatic visions are often enough renewed. If these visions are pleasing, they leave in the soul a delicious impression. Such were the visions of the ancient anchorites, and of those philosophers of all ages, who, when in a state of ecstacy, fancied the delights of heaven. But if these visions are of a sad and mournful nature, they impart a dark hue to all the ideas of the individual, and overwhelm him, by degrees, in the deepest melancholy. At last, if the imagination, lacerated by continual remorse, or tormented by the fear of eternity, incessantly fancies the frightful torments of hell, and its yawning abyss, such a state may degenerate into real mania, either continual or periodical, and produce all the symptoms of demonology. Instances among the ancients were Orestes, Œdipus, Melagres; such have been, in modern ages, those weak and timorous minds who thought themselves possessed by the devil. The most absurd fables have been uttered during these pretended diabolical possessions; the most barbarous judgments have been pronounced against demoniacs. Tardy truth at last tore off the veil, and exposed these diseases to a severe scrutiny; the illusion vanished, and subsequent observations proved that demonology is nothing but a kind of folly proceeding from causes analogous to and susceptible of the same termination as all other mental disorders. It is an evidence of this, that such a disease is hardly known in our days, and on the contrary, was a very common occurrence in all schismatic ages. At the time Luther made his appearance, this terrible mania became epidemic, and the burning wood pile was the only remedy used to eradicate it; a most atrocious remedy, worthy of that fanatical age, but, at the same time, diametrically opposed to the principles of primitive Christianity, which succeeded in assuaging the imagination of those unhappy victims by means of exorcisms and prayers.

There is no situation in the whole progress of life wherein so great an influence has been conceded to the imagination, as during the state of pregnancy. We meet numberless facts on record which appear altogether undeniable, all tending to prove that the mother's imagination has the greatest influence on the organization of the fœtus. It is said that often she imprints on its body tubercles or spots resembling the forms of certain fruits; at other times there will appear palpable defects of conformation, or some aberrations of nature which may even reach to monstrosity, when hideous objects have left their impression on the mother's imagination. Every one knows the history of Cariclea, who was born with broken limbs, and so lived to an advanced age. Thousands of such facts, more and more wonderful, have been mentioned; it has even been believed, in dark ages, that a woman could conceive by the force of her imagination; and a decree of the parliament of Grenoble pronounced in 1637, and reported by Thomas Bartholin, clearly proves that the lawful heirs to an estate have been deprived of their rights, in favor of a child conceived in this manner! Such ridiculous fables have awakened the attention of many physicians and philosophers; who, in their turn, have fallen into the opposite excess of rejecting all the facts in favor of the opinion they wanted to destroy. Their scepticism appears to me useful, but too excessive by far; for, if Buffon, Blondel, Astrue, Mauriceau, &c. entertain such an opinion, we may bring in opposition to them, Aristotle and Galen, with all the ancients, as well as Malebranche, Voltaire, and a great number of learned modern physicians. If it is necessary, however, to revert to the consideration of facts, ought we not to consider the fœtus as a part of the body of the mother? then, ought it not to partake of the effects resulting from her wandering imagination? Would it be contrary to reason to suppose, that, in the first stage of pregnancy, when the new body forms and develops itself, its organization may deviate from the original model marked by nature, in order to adopt the ideal type of the imagination of the mother? I think that we ought to avoid both the credulity of the ancients and the extravagant scepticism of some moderns on this subject: and I would rather say, with Haller, that we should await the development of additional facts before we decide.

But, if we are to remain in doubt on this subject, we must allow that the passions of the mother, during pregnancy, may powerfully influence the health of the fœtus, as well as its safe birth. And when she reaches that epoch, her imagination demands still greater restraint. If the cries of a child ardently longed for cause her to forget the pains incident to its birth, it is not less certain that the death of this beloved child, at the very moment she fondly expected to embrace it, may afflict her to such a degree as to cause her own premature death.

I might still add to this section certain states of disease, which seem to belong to a decided disorder of the imagination, particularly the hypocondriac. Some will imagine themselves metamorphosed into dogs or wolves, whence originate the names of cynanthropy and lycanthropy given to these affections; while others will persuade themselves that their viscera are displaced, that they have living animals in their stomachs, or horns on their heads. These opinions throw them into deep melancholy and subsequent marasmus. One thinks himself deprived of his limbs, another imagines that his legs are made of glass. Borreces, persuading himself that he was a lump of butter, shuns the approach of fire; Nicole shuts himself up in his chamber, to avoid being crushed by a tile detached from the roof of some house, &c. In such cases, the imagination alone is evidently vitiated; as to undeceive the patient by very simple means often suffices to operate in him a radical cure. I do not deny at the same time that such delirium is often the effect of organic disease.

The folly of other patients consists in physicking themselves to excess in order to recover their health, which they have never lost. Their imagination continually seems to portend misfortunes or diseases—they shiver at the least accident, they are incessantly importuning the apothecary, they are provoked by the contrarieties of the physician, and, by dint of self inflicted troubles and medicaments, they at last sink into the grave which they have dug for themselves, and on which we might very properly engrave the following Italian epitaph: "I was well, but wishing to be better, I am here."

SECTION II. *The Imagination considered as a curative and prophylactic agent.* Notwithstanding the numberless disorders depending on the imagination, it is somewhat gratifying to reflect that it can be made use of for the cure of them all; for if it directs the play of the passions to the detriment of the most vigorous state of health, it can also employ them for the speedy removal of the most obstinate diseases. The mechanism of its operation is invariably the same; the imagination reacts upon the organs, and imparts a new direction to their vital action. We have before pointed out the cases in which this reaction is susceptible of being injurious; we will now investigate those in which it may prove beneficial.

It has been a long established truth, that a sudden though transient fright will sometimes act in a salutary manner upon the animal economy, and thereby effect the cure of affections even the most inveterate. It was a favorite practice among the ancients, as we find it exemplified in their leap from the promontory of Leucate, to plunge maniacs unexpectedly into water; a mode of proceeding which was not unfrequently successful, as it has also been in more modern times. The man who, according to the account of Alibert, prevented his attacks of epilepsy by having a number of guns fired around his ears, affords another proof of the truth of my assertion. It is well known that a great fright has restored motion to paralytic patients, when their life was in jeopardy; witness the case related by Valeriola of a man, who, lying in his bed under an attack of palsy, perceiving his house on fire, jumped out and thus saved himself from eminent peril. It is to fright or to filial love, or perhaps to both, that we are to ascribe the credit of having rescued the life of Cresus, by suddenly letting loose the tongue of his child, which had hitherto been completely tied. Instances of this sort are not so uncommon as is generally believed; they are to be found in the writings of Vanhelmont, Salmudt, Dumerherst, Verdiuz, Stahl, Gaubius, Van Swieten, and others. Cullen places fright among the causes capable of checking the paroxysms of intermittent fevers. Reed, Rush, and Petit of Lyon, relate instances of hysteria, and even of phthisis, cured by the shocks produced upon the mind during the terrific occurrences of revolutions in France and America. And if hazard has a greater share than the physician in these extraordinary cures, it is owing to the danger that may attend the employment of this therapeutical agent being such that the practitioner is compelled to dispense with it in cases where it might prove highly serviceable. An enlightened physician, who is thoroughly acquainted with the resources of his art, is not deterred from exciting a salutary movement of terror, in order to bring on a beneficial reaction of the imagination upon the animal economy. A fatal tendency to imitation has sometimes rendered epileptic fits epidemic in a large hospital. The attending physician caused red coals to be placed in the middle of each ward, with orders to burn the tongue of the first who should fall into a fit; the imagination of every one was so frightened at this terrific apparel, and so fully engaged with the idea of so cruel a punishment, that it retained a complete command over all the vital phenomena, and not one patient was again affected with epilepsy. Here we recognize the true physician, the therapeutist, who does not confine himself to the bare resources of pharmacy: in a word, we discover in this proceeding a great portion of that merit which has secured to Kaaw Bœrhaave so much celebrity.

Shame formerly had in Milan the same beneficial effect as fright in the hospital of Harlem. Suicide by hanging had become epidemic among the inhabitants of Milan; the amgistrates succeeded in arresting its progress, by ordering that the body of the first woman who should hang herself, should be dragged through the streets.

Sorrow can seldom operate in favor of health; yet, it has sometimes caused cutaneous eruptions to disappear in a very short time. The metastasis of these exanthemata, whether chronic or acute, is often followed by serious accidents; but, in other cases, they leave no trace of their existence; they abandon man altogether to a sorrowing mind, and again make their appearance when time has in some degree relieved his mental sufferings. M. Alibert, who relates cases in support of this opinion, also speaks of a rich lady in Paris, who had been long affected with a considerable bronchocele, and who was cured only by the profound grief she experienced under the reign of terror.

If it were necessary to adduce authorities to establish the advantages that may result from the influence of anger, I would qúote Hippocrates, who considers it highly beneficial for paralytic patients, and those endowed with a pituitous temperament; Gaubius and Valeriola, who have cured, by that means, several cases of palsy; Borichius, who arrested the progress of an obstinate quartan, in the same way; Chanderus, who even calls it a salutary balsam, which vivifies old people, increases the natural heat of their body, which he ingeniously compares to the stones from which sparks of fire are procured only by the shock of steel. A sportsman, affected with the gout, consults a fortuneteller in his neighborhood for ascertaining the cause of his complaint, and the means of cure; she answers, that his disease is owing to the manœuvres of an old witch, indicating also the place of her residence. The patient, in the heat of his ire, repairs with difficulty to the spot, aided by his crutches; he indulges in the most outrageous and abusive imprecations, and makes extraordinary efforts to strike her; and these tumultuous and powerful exertions, which appeared to throw confusion and disorder into the whole machine, become the cause of his spontaneous recovery. (Willis.) Might we not, in general, consider anger as a most excellent therapeutical agent, whenever it is necessary to produce a certain degree of fever in order to change the periods of the disease, and put an end to an affection which, without this remedial excitement, would have been of too long duration. It is, however, proper to use this remedy very sparingly; such extreme alternatives are never justified but in desperate circumstances, and in order to save the human machine from wreck, its engines must neither be broken nor too rapidly worn away.

The erotic disorders that have been enumerated in the first section are generally the consequences of unfortunate and crossed love, for in that case the effects are perfectly identical with those of despondent passions. On the contrary, successful love equalises all the organic actions, maintains the free circulation of the fluids, and frequently produces the happiest effects. Let us mark Tissot expatiating on the beneficial consequences of that passion when crowned with success. A man in a state of consumption, was evidently sinking with great rapidity. A beautiful woman, moved by a sense of commiseration for his deplorable situation, was bestowing upon him all the tender cares that the liveliest interest could inspire. The patient, although in a condition nearly desperate, felt himself capable of at least a return of affection; he soon began to love, and, as this sentiment was daily gaining ground, his health was gradually improving. The mere sense of pity which his situation had first inspired was soon converted into a more tender sentiment; and this reciprocal interchange of the liveliest affection soon restored him to complete health. He passed from his death bed to the nuptial couch, by no other remedy than a violent and successful passion. A similar sentiment is capable not only of changing the course of the diseases, but also of improving, as it were, the constitution, and increasing the physical capacity of indulging it, as Cabanis has very properly observed, even in the most debilitated subjects. How many young people languishing under the weight of protracted diseases might speedily be cured, were they allowed to follow the advice of Hippocrates, who prescribes *matrimonium* as a specific for their illness, always bearing in mind this maxim of lord Bacon: "Conjugal love creates the human species; social love improves it; but impure love corrupts and dishonors it."

It is in the enjoyment of pleasure that man possesses all the plenitude of his existence; it is that alone which imprints upon his countenance and sheds over all his features that tender and kind serenity, the unerring characteristic of perfect and uninterrupted health; its excess may, no doubt, pathologically speaking, aggravate the symptoms, disorder the crisis, and change the termination of diseases; but, how often have we not seen the most marvellous and unexpected cures performed under its influence!

May I be allowed to speak of the omnipotent and devouring passion which prompts us to dare every danger, triumph over every obstacle, and overcome all sorts of diseases,—I mean the noble sentiment of glory? Whether we trace it in the field of battle, in the medical sanctuary, or the temple of the muses, we find it equally acting with an extraordinary effect upon the animal economy. What organ shall we designate as the seat of that passion? Shall we locate it in the heart, the stomach, or under some particular protuberance of the cranium? Who can presume to deny its having both its origin and its object in the imagination alone? Hence we find that all the hardships of cold and hunger, and all sorts of privations cannot impede the progress of a fortunate soldier; hence, also, the physical structure of the body is no exception to the general rule. In vain did the parents of the great Turenne urge upon him the weakness of his constitution, in order to induce him to relinquish his military occupations; eager to evince his determination, he spends the whole of a winter night on the walls of Sedan, leaning upon the carriage of a gun, and his health is not the least impaired by the experiment. We all know the incredible efforts which Demosthenes had recourse to for the purpose of conquering a difficulty in his pronunciation, which must have forever excluded him from the tribune. Is it not by the influence of the same passion that the man of letters, the physician, and the poet, baffle the most powerful causes of destruction, and prolong their existence beyond the usual term, notwithstanding their debilitated constitution, and the excesses to which they are constantly made liable by their intense studies? The axiom that the greater the energy of the intellectual faculties the more debilitated are the vital powers, is as absurd as the precept which commands the sacrifice of health to the desire of acquiring fame. Most of the illustrious men adduced in evidence of these assertions have, no doubt, been indebted for the preservation of their lives to those very causes which the people consider as effecting their premature destruction. The love of glory, of which their imagination presents them all the enjoyments, is such as to retard the decay of their bodily frame through the predominance of their intellectual faculties. The happy conception of Alibert deserves to be noticed in this place: "Enlarging the sphere of one's ideas, tends to consolidate the powers of life."

The above remarks will point out the manner in which the imagination may render the passions tributary to the maintenance and recovery of health; but, in other cases, it elevates the soul so far above the weakness of the human frame, as to make it insensible to the most cruel causes of suffering. Scævola plunges his mistaken hand into the most intense fire, and his exalted imagination fancies the punishment too inconsiderable. Among the immense number of martyrs that have illustrated the truths of Christianity, we find the most delicate women and virgins daring all the artifices of their executioners, and terminating their existence in the midst of the most cruel sufferings, while their imagination, intensely bent upon the supernatural felicity that awaited the result of their trial, enabled them, not only to resist all attempts without a groan, but also to sing sacred hymns with perfect calmness and joy.

From such sublime spectacles, let us pass to more ordinary, though not less striking, occurrences; let us examine the beneficial influence of the imagination during the course of contagious diseases. The experience of ages has demonstrated that the intimate conviction of the innocuity of a poison is sufficient to counteract its deleterious effects; that if a person fancies himself inaccessible to the plague, he may inhabit infected places with impunity. It is this fortunate security which protects the physician against all the perils attendant on the performance of his professional duties, while he reaps, in the enjoyment of uninterrupted health, the most flattering recompense for his devotedness. His care is not limited to the protection of his own person; he endeavors to inspire into the breast of the feeble and the timid a spark of that courage which protects him against the incessant dangers of his situation. It was in the performance of these arduous functions that the father of medicine secured the gratitude of the Athenians, and the reverence of posterity. It was by his example that the physicians of

Montpellier succeeded in rousing the courage of the inhabitants of Marseilles, by abstaining from calling by its true name a plague that was making extensive ravages in that city; in the same manner we have seen, in our days, a celebrated physician dazzle the minds of a whole army, some of them on the eve of death, by the magic effects of an experiment more imposing than dangerous. (M. Desgenettes.)

Such is also the mode of acting of the imagination in preserving persons endowed with a vigorous mind from the most disastrous complaints; but its effects are the same upon those differently constituted, although they may vary in other respects. In some cases, it carries the conviction that some magic words or insignificant gestures will perform a cure, and this conviction is the sole cause of their cure; in others, it borrows the assistance of amulets, magnetism, talismans, and the whole series of ancient superstitions, in order to ensure its effects; such is the source of all those successful results of dealers in secret remedies, and of quacks of all ages, which, though various and sometimes contradictory, are nevertheless published with pomp and held up with enthusiasm. The success they derive in reaping an abundand harvest from that soil which they have fed with the blood of so many victims, is only to be attributed to imposing scenes that surround the theatre of their operations, to their facility in gaining confidence by flattering delusions, and, above all, to the imagination of the patient, who is intensely bent upon the intimate conviction of his cure. This medicine, which might be called magic, can be traced to the remotest periods of antiquity; Medeus, Circeus, and Angitia, formerly so celebrated in the art of healing, had no other specific than the confidence they inspired in the sick by their charms. Homer represents the son of Antylochus checking hemorrhage from the wounds of Ulysses by magic words. The mistletoe *(viscum)* was indebted for the credit which it so long enjoyed, to the veneration that our forefathers had for that parasite plant, in the ceremonies of the Druids; and if some of the kings of France have sometimes cured scrofula by simple contact, it was no doubt in those subjects who believed them really endowed with that privilege. The miracles performed at the sepulchre of the deacon Paris, and some extraordinary cures obtained by the partisans of magnetism, confirm the truth of these observations, and must be considered as such rare occurrences that they cannot be taken into account.

The physician himself does sometimes as much by his presence as by his remedies; when he approaches his patient, the pulse quickens, the delirium and fever cease in some cases for a certain length of time; hence it is necessary to distinguish what may be called the physician's pulse, in order to guard against error. It is on this ground that Celsus recommends to select a physician esteemed by his patient, and that J. J. Rousseau, amid his violent sarcasms against medicine, has said, "I have little confidence in the medicine of physicians, but much in that of friends." *(Confessions.)* The superiority that an old routineer generally has over young practitioners, is frequently nothing more than the ascendancy that age possesses over the minds of patients. "For," as Zimmerman justly observes, "the vulgar does not enquire whether the physician is well educated, of a profound judgment, a man of genius, but whether his hairs are grey. It is in this manner that an old tree crushes under its dried limbs the growing efforts of the tender shrub." *(On Experience.)*

This moral influence is so well marked in some patients, that the most insignificant substances sometimes operate like the most active remedies; while the reverse will take place, if unassisted by the power of the imagination. Pechlin has long ago observed that purgatives are eminently promoted by the will of the patient, and that they are almost null, if he is unaware of their effect. Bartholin relates a case where the mere smell of a remedy produced considerable evacuation; and Hoffman speaks of a well known physician who purged and cured a patient with bread pills which hehad prescribed as purgatives. It may perhaps be enquired, whether the physician ought to make use of such stratagems, in order to promote the effects of his remedies; to which I answer that he ought, provided he is able to accomplish it without imitating the process of the empiric, or compromising the dignity of his profession. Was Socrates ever blamed for having feigned conversing with what he called his genius, for the purpose of enforcing veneration to his doctrine? Has Numa been censured for pretending to hold secret interviews with the nymph Egeria, in order to give more weight to his useful institutions?

The physician, therefore, should never abstain from whatever may increase the confidence of his patients, or bring their moral affections under his immediate control. It is true that the influence of the imagination is seldom found proportionate to the violence of the disease; on the contrary, it not unfrequently happens that, far from aiding the patient, it perplexes his mind with the most sinister images, and thereby accelerates the moment of his dissolution; but in some organic diseases, even in certain desperate cases, where the resources of nature are equally as inefficient as those of art, the imagination yet has its full sway; it soothes our sufferings by the hope of a more cheering perspective; it substitutes flattering delusions for the gloomy thoughts of death. It is in vain that long continued pains, and the tears of parents or friends, admonish us of an approaching destruction: "The interest is so important that the patient listens to none but himself; the judgment of others is disregarded, and their fears regarded as false alarms; so long as he can think, preserve the sentiment of his own existence, he reflects or reasons exclusively for himself; and all is dead, but hope is yet alive." *(Buffon.)*

It is always from the imagination that the rays of hope emanate, and it is the duty of the physician to create and entertain it: all his endeavors should be directed towards placing the mind of his patient in such a condition that its influence may always promote the medicating power of nature. In those diseases where the mental faculties are alone disordered, moral treatment is alone proper: the first step consists in removing all causes susceptible of impairing the health of the soul; for, as Seneca says, it is much easier to keep away from what is injurious, than to regulate it when once introduced into the organization. The precepts of religion, morality, and sound philosophy must, therefore, be brought into action in order to check and control the effervescence of the passions. It is in the maxims of the gospel, in the books of Epictetus, Plato, Cicero, and Seneca, that the irrascible and the vindictive will learn to cherish clemency and moderation; it is in the charms of a lively entertainment, or of pleasing spectacles, that the melancholy will recover that open gaiety and jovial temper, the never failing consequence of an interchange of bonmots. Even where the imagination is already diseased, nothing can be more beneficial than the variegated scenes of a voyage through a fertile and smiling country. "Let the patient," says Areteus, "retire, and live surrounded by meadows, fountains, and rivulets; for the purity of the atmosphere which fills his breast, and the charms that are offered to his imagination, warm the soul and vivify nature." What can we imagine more ingenious and useful than those excursions accompanied with dancing and concerts, to which alienated persons were submitted among the Egyptians? It is useless to enumerate the multitude of instances where the charms of music have produced the most wonderful effects, and thousands of other expedients to which the physician can resort, according to circumstances, conditions, and places. Were it not unnecessary to adduce examples, I would relate the following, which is the most ingenious that can be quoted: A man was incessantly tormented with the fears of hell, and began to despair of his salvation; he soon fancies himself condemned and plunged into the eternal flames: his friends attempt in vain to expose his palpable illusions, and that his sufferings are altogether imaginary. All endeavors to persuade him increase his obstinacy; a Portuguese physician puts an end to his torment in a most ingenious manner. He dresses one of his friends in the attire of an angel, introduces him into the patient's chambers, where the pretended cherubim, with a sword in his hand, announces to him the formal revocation of the sentence passed upon him: the patient fancies that he hears a heavenly voice acquainting him with his pardon, and from this moment there is an end to his sufferings. (Tulpius.)

Let those who obstinately refer all mental aberrations to derangements in organized matter, attempt a tolerable explanation of this fact; let them account for the frequent possibility of curing an infinite number of similar affections by means exclusively moral, as we have it demonstrated in the writings of Pinel; let them designate, with the scalpel in hand, the aberrations of the cerebral substance, of the nerves and spinal marrow, and then we may confound, as they do, matter with intelligence, the soul with the brain, the organism with thought. If they fail to give those explanations; if, far from elucidating the subject, they throw it into still greater confusion, we cannot for a moment hesitate to reject their doctrine, and distinguish organization from the nature of our intelligence.

I must now conclude, though reluctantly, because I feel that I am much beneath my subject. I am far from having pointed out all the circumstances in which the imagination possesses an influence over the economy; but, in confining myself to indicating the facts that relate to the science of pathology, I have been enabled to consider its agency both as beneficial and injurious. If, on the one hand, man appears to have received his imagination for the purpose of multiplying his diseases, already too numerous, this inconvenience is in some measure compensated by the resistance it offers to their production and progress. It is in this manner that, considering the imagination in a point of view altogether moral, I might point out the errors and anxieties it creates, and confront them with those sublime truths and rapturous illusions with which it adorns every moment of our life. Yet, it must be acknowledged that the source of our dearest enjoyments springs from the alternate effect of these different sorts of moral excitements; that it is the variety of the impressions we experience which enables us to appreciate their delight; and, in our actual condition both moral and physical, an uninterrupted state of felicity would ere long render our existence almost intolerable.

Art. VI. *Case of Scirrhus of the Pylorus and Hypertrophy of the Stomach.* By James S. Rumsey, M. D. [With a plate.]

On the 10th of April, 1828, I. W., aged 45 years, of short stature, small frame, dark hair and eyes, a native of Ireland and by trade a carpenter, applied for relief at the New-York Infirmary for Diseases of the Lungs, during the attendance of Dr. A. Anderson and myself. He stated that his health had been impaired for about six months, and attributed his complaints to a severe attack of catarrh. He was greatly emaciated, his countenance sallow, and had a marked expression of anxiety and suffering. The symptoms under which he labored were cough unattended with expectoration, great debility, occasional night sweats, a variable and capricious appetite, oppression after eating, great thirst, an unpleasant and sometimes sour or bitter taste in the mouth, eructations, costiveness—the appearance of the alvine discharges had not been noticed—urine scanty and high colored —pain in the loins. The patient complained chiefly of debility and of a constant and very uncomfortable feeling of weight and oppression at the pit of the stomach, which was increased on taking food, but was not affected by spirituous potations. Vomiting had never occurred spontaneously, and was induced with difficulty by emetic medicines; while the bowels, he observed, were easily moved, and he was in the habit of using purgatives frequently, and with temporary relief. He occasionally felt pain in the right hypochondrium, which was not affected by the posture of the body in bed.

I was much struck with the appearance of the tongue, which was moist and free from fur, except at the root, where it was covered with a light yellow secretion, of the color of powdered gamboge—very pale, except immediately at the tip, and remarkably smooth, the papillæ being, as it were, obliterated. It seemed to me, also, that the complexion of the patient differed from the ordinary hue of jaundice. The term "jaune de paille," employed by the French authors to describe the color of the skin in patients laboring under cancerous affections conveys a good idea of it. This yellowness was confined to the face and upper part of the neck. The pulse was small, rather chorded, and beat eighty strokes in the minute.

On applying the stethoscope to the chest, the respiratory murmur was heard with equal distinctness on both sides, and percussion yielded a healthy sound. In making an examination of the abdomen, we noticed that pressure gave pain in the epigastric and hypochondriac regions. I could not satisfy myself that there existed any enlargement of the liver. There was no bulging of the right lower ribs, or prominence under the margin of the chest; nor was it manifested by the touch, or the employment of percussion: though on pressure being made on either side of the linea alba, the right was evidently more unyielding than the left side. The lower part of the abdomen not being exposed, was not at this time examined. We directed the pil. hydrarg, in doses of five grains, to be taken at bed time, and on the following morning a small quantity of sulph. magnesia; the emp. antimonial to be applied to the epigastrium; the diet to consist of milk and farinaceous substances—all articles of a stimulating nature, whether of food or drink, being strictly forbidden. Under this mode of treatment the patient thought himself benefited, and remarked that he felt better than he had done for several months.

In the course of a few days we again examined the abdomen, and noticed that it was very prominent at its inferior portion. In this situation the fluctuation of a fluid could be distinctly felt when the hands were applied in the usual way of examining for ascites. Percussion elicited a tympanitic sound over the umbilicus and in the right inguinal region. On this side, from the margin of the chest to within an inch of the umbilicus, the abdomen felt harder and was more resisting to pressure than in the corresponding situation on the left side. The patient stated that his feet were swelled about two months before he applied at the infirmary.

Believing that ascites existed, in addition to the other affections, we prescribed an active purgative, composed of jalap and sup. tart. of potass, and directed half an ounce of the latter, dissolved in a pint of water, to be taken during the day—the medicines first prescribed being continued.

April 21st. No purgative effect from the medicines taken yesterday, although the patient drank much larger quantities of the solution of crem. tart. than were ordered, being tormented by excessive and almost insatiable thirst; a symptom under which he has suffered for some time. The quantity of urine is much increased and is of a light color. Repeated pulv. purg. The other medicines to be continued.

April 22d. Four copious and fluid discharges from the operation of the pulv. purg. The abdomen less tumid and the patient feels much relieved. The pill scillœ, with a small portion of calomel, was directed, the other medicines being discontinued except the solution of sup. tart. potass, which was found grateful, and in some measure allayed the thirst.

April 26th. I was requested to visit the patient at his house. He had vomited two hours before about three pints of a frothy fluid, resembling a mixture of yest and water, in which floated portions of undigested food. He remarked that he felt much oppressed throughout the day, but was easier since the vomiting. His chief complaint was of a sensation of burning in the throat and the pit of the stomach, with acid eructations. This was the first attack of vomiting since his health became impaired. On applying the hand over the abdomen, I found it flaccid and collapsed. The dropsical effusion (if indeed it had ever existed) was no longer discoverable. About midway between the last false rib and the umbilicus I could distinctly trace a hard irregular body, which lay chiefly on the right, but extended also across the linea alba towards the left side, and terminated a little above the umbilicus. When firm pressure was made upon the tumor no pain was felt in the tumor itself, but the patient experienced an uncomfortable oppressive sensation, which he referred to the scrobiculus cordis. I directed a mixture of magnesia and cinnamon water, to which was added a small portion of rhubarb, as the bowels had been constipated for several days. All other medicines to be discontinued, and the diet to consist solely of mucilaginous drinks.

April 27th. The patient feels much better. On viewing the abdomen, I noticed that there was a depression under the margin of the chest on the right side, and that this side generally was less prominent than the opposite, more particularly at the upper part. A tumor was visible, lying almost entirely in the umbilical region. Just before I came into the room the patient had been taking active exercise, and a violent pulsation existed over the greater portion of the abdomen, which was communicated to the coverings of the bed. This pulsatory motion was greatest in the region occupied by the tumor, and was very strong whether pressure was made in a lateral or perpendicular direction. From the preceding history it will be seen that the tumor was moveable. Having a stethoscope with me, I applied it over the tumor, and thought the impulse less than I should have judged it to be by an examination with the hand. The sound of the pulsations, as transmitted by the tube, was not greater opposite the tumor than in other parts of the course of the abdominal aorta. Along the spine neither sound nor impulse was perceptible.

That the pulsations were caused by a hard body, situated in the track of the aorta, and not by an aneurism of that artery, I did not doubt, but, at this period, I hesitated whether to regard the morbid growth as involving the pylorus or a portion of the small intestines. I had early expressed the opinion that the disease was of a cancerous nature, and that the liver was not enlarged. The situation of the tumor frequently changed—it inclined more to the left at one time than another, and descended lower towards the pubis, occasionally lying almost entirely below the umbilicus. A singular appearance of the abdomen frequently attracted my attention—it would become distended, as by the evolution of gas, and a prominence would be formed, which commenced at the margin of the chest on the left side, and terminated at the tumor, while it reached below nearly to the pubis. After observing this appearance repeatedly, I felt confident that I could trace in it the form of the stomach, which was much enlarged, and I no longer doubted that the pylorus was the seat of disease.

Being obliged to leave town for several days, a physician of great respectability saw the patient, and regarded the case as an unquestionable enlargement of the liver, which induced him to prescribe 10 grains of the pil. hydrarg every night, and comp. tinct. of aloes on the following morning. It should be stated, however, that but one visit was made, and it is probable that farther observation would have led him to form a different opinion. I have mentioned the circumstance only to show that the nature of the disease was not, even at this period, perfectly apparent.

The constitutional symptoms, which were slightly marked at the onset, became every day less obscure. The emaciation and debility continued to increase, although the patient was still able to take long walks and superintend his business. He was not confined to his bed until two weeks previous to his death. The thirst became more constant and tormenting. There was a sense of burning in the throat, under the sternum, and at the scrobiculus cordis. There was never decided pain in the stomach, but a constant feeling of weight and uneasiness—pressure upon the tumor increased this sensation. The appetite for food continued little impaired, although it soon became impossible to gratify it. Eructations, attended generally with a sour taste, and once or twice with that of spoiled eggs, often distressed the patient. The vomiting became frequent, and occurred first at intervals of several days, afterwards every day or two, then daily or a few hours after eating, and finally nothing could be retained for more than a few minutes. The matters ejected from the stomach consisted usually of the food or drink last taken, very little changed, and sometimes of a colorless glairy fluid, which would also run from the mouth during sleep. About a month after the first attack of vomiting, the patient remarked that he had thrown from his stomach something which looked like coffee grounds, and that the stools contained a similar matter. He had never noticed this appearance before, but had observed, in the alvine evacuations, black masses, which he compared to pieces of liver.

The bowels were usually inclined to be costive, and the discharges were both small in quantity and of an unhealthy color—they were generally lighter, but sometimes darker, than natural. The pulse was small, slightly chorded, and beat from eighty to eighty-four strokes in the minute. The spirits were seldom depressed.

The treatment, after the disease was decidedly marked, consisted chiefly in the employment of gentle laxatives, which seemed to render the patient more comfortable, together with a mild and unirritating diet. Magnesia, lime water, effervescing draughts, preparations of opium, cicuta, and other narcotics, were tried, but with little benefit. Alkalies appeared sometimes to alleviate the distressing cardialgia.

July 10th. Vomiting of a dark matter, hiccough, extremities cold, pulse feeble—seventy in the minute, voice scarcely audible, diarrhœa.

July 12th. Vomited again the same matter, some of which was shown me—it was in the form of small grains of a dark grey color, and resembled powdered slate or pumice stone—death supervened during the night.

The examination of the body took place the following day, at 4, P. M., in presence of professor J. M. Smith, Dr. J. K. Rodgers, Dr. Willett, and myself. It was obligingly conducted by Dr. Rodgers.

The body was greatly emaciated. The tumor lay on the right side, and mostly below the umbilicus. On opening the abdomen, scarce any thing was to be seen but the enlarged stomach, which descended so low as almost to touch the pubis, and seemed to occupy the whole cavity. (See plate.) Its pyloric extremity was the seat of a large scirrhous tumor.

The external surface of the viscus was marked with dark lines, displaying the course of blood vessels within. The liver appeared placed somewhat lower than natural, as if dragged down by its connection with the stomach. The intestines were pushed from their usual situation, and concealed from view. The stomach being raised, discovered the small intestines, lying chiefly in the right inguinal region, and their calibre much diminished. This contraction was more particularly remarkable in the large intestines—the colon at its transverse arch and sigmoid flexure not being larger than the finger of the subject.

When the stomach was removed from the body, and an opening made into its cavity, it was found to contain a large quantity of a dark matter, similar to that vomited. Large vessels were seen in an arborescent form ; the same, probably, which furnished this secretion. The mucous coat seemed whiter than natural, and I thought softened, and in places thickened, but it was impossible to make a minute and careful dissection, as several friends and relatives of the deceased were present, and the examination was necessarily hurried. I should say that the whole viscus was at least thrice its usual thickness. The increase of substance existed chiefly in the muscular coat and cellular tissue. The peritoneal covering was healthy. The pyloric orifice was capable of admitting the fore finger. The duodenum exhibited no marks of disease ; the other portions of the intestinal tube were not particularly examined. The liver did not appear increased in size, but its color was unnatural, and when cut into, it left an oily matter on the scalpel. It was the "foie gras" of the French pathologists. The spleen was double and healthy. Kidneys and pancreas, perfectly natural. The thoracic cavity not examined.

The causes of disease are generally involved in obscurity. In the present instance the patient always stated that his ill health commenced with an attack of catarrh, and that he had never suffered under long continued depression of spirits. I have been told by his friends, since his death, that he had a severe fall on the loins, some months before he was observed to complain of impaired health, and that he had also experienced great domestic afflictions. Local injury occurring after the middle period of life, and the influence of depressing passions, have usually been regarded among the causes of cancerous affections.

When first presented to us, this case was by no means strongly characterised. There had never been an attack of vomiting, and several of the symptoms which are said to attend scirrhus of the pylorus were wanting. But many cases are recorded of extensive scirrhous degeneration in the stomach and other viscera, without having been manifested during life by any peculiar phenomena. Andral observes, (and there is scarce any higher authority,) "que, hors le cas ou une tumeur se fait sentir a travers les parois abdominales, il n'existe aucun signe certain pour distinguer ce qu'on appelle, dans le langage medical ordinaire, un cancer d'estomac, de ce qu' on appelle une gastrite chronique."

In the January number of the Medico-Chirurgical Review, for the present year, an interesting case is related where all the usual symptoms of scirrhus of the pylorus existed, including black vomit, while at the same time there was an oval tumor at the umbilicus. The health became reestablished under the use of seltzer water and antimonial ointment, aided by abstinence, and from the result the physician, M. Bricheteau, concluded that the disease was an inflammatory engorgement of the pylorus, although it was for a long time regarded as a scirrhous induration. The history of my patient's case shows that it is also possible to mistake tumors of the stomach for enlargements of the adjacent organs.

I have thought that, perhaps, the symptoms of dropsical effusion were deceptive, and that when the stomach was greatly dilated and contained a large quantity of fluid, it might occasionally be confounded with ascites.

In abdominal tumors attended with pulsation, if the customary modes of investigation failed to satisfy the physician, I am inclined to believe the stethoscope would be found a useful assistant.

Regarded in a pathological point of view, the present case is remarkable. Few instances are probably on record of so great dilatation of the stomach conjoined with hypertrophy. Andral has related two very interesting cases of dilatation of that organ, in the 4th volume of the Clinique Medicale. In the first, the muscular coat was in a state of atrophy, and the mucous tissue softened, and in some places destroyed. In the second example there was no alteration in the texture of the viscus, except partial softening of the mucous coat. In both patients the bowels were constipated, and after death the intestines were found very much contracted.

Louis, in a paper entitled "De l'Hyperhophie de la Membrane Musculaire de l'Estomac dans toute son entendue dans le Cancer du Pylore," suggests the possibility of the hypertrophy being produced by a narrowing of the pyloric orifice.

In the case which I have related, the natural dimensions of this orifice were preserved.

ART. VII. *Cases of Scirrhus of the Pylorus.* By JOHN D. OGDEN, M. D., late House Physician to the New York Hospital.

CASE I.—William Smith, born in Denmark, aged 38 years, seaman, of a bilious temperament, and sallow complexion, was admitted, May 10, 1828.

Symptoms. Loosend state of the bowels, furred tongue, dull rheumatic pains, with no increase of arterial action. After his stomach and bowels had been evacuated by a scruple of ipecacuanha, and an eccoprotic mixture, he was put upon the use of Dover's powder, camphor, and carbonate of potash, and directed to live upon a light farinaceous diet.

During the three or four succeeding weeks, his pains entirely subsided, but his bowels remained much deranged, alternating between a relaxed and constricted state, accompanied by other dyspeptic symptoms, for which he was treated, according to circumstances, with rhubarb, alkalies, and an occasional anodyne.

On the 4th of June he was seized with a violent pain in the right hypochondriac region, which, resisting blisters and other remedies, was finally relieved by salivation. The patient, however, still complained of a dull pain in his side, and referred it to a spot in the right hypocondrium, not larger than a dollar piece. His stomach, also, became irritable, and his bowels torpid. To obviate these symptoms, and to counteract the debility which threatened, he was put upon a course of mild aperients, with bitters, and antacids, his diet was improved, and he was allowed a considerable quantity of Madeira wine. The oxide of bismuth was subsequently added, and external irritation was constantly kept up over the umbilical region, by stimulating applications.

These remedies soon lost their effect, and his complaint daily increased in violence, and at length reached a height that rendered life burdensome. Cathartics ceased to procure alvine evacuations; nourishment, when taken into the stomach, underwent the fermentative process forthwith, and having distressed the patient for thirty-six, forty-eight, or sixty hours, the accumulated mass would, to his great relief, be thrown up. If suffered to stand in a vessel for twenty or thirty minutes, these rejected contents of his stomach would be covered with a froth or foam, like yest, several inches in thickness. The carbonate, the prussiate, and phosphate of iron, the syrup and decoction of sarsaparilla, narcotics, opium, cicuta, &c. were successively tried, but without effect; and after lingering out the month of September, he died on the 4th of October.

Post Mortem Examination. The thoraciac viscera were perfectly natural and healthy. Upon cutting through the parietes of the abdomen, the stomach presented itself filled with air, very much enlarged, and concealing from view all the other viscera. Upon attempting to turn over the parietes of the abdomen, we found them adherent to the pyloric orifice, and upon farther examination, we discovered that the right extremity of the stomach had agglutinated itself to every viscus with which it had come in contact; the pylorus, the arch of the colon, the left lobe of the liver, appeared tied into one knot, and all firmly attached to the parietes as above mentioned. The pyloric orifice was contracted, and would not admit the end of a little finger, and on being cut, was found hard and cartilaginous; the duodenum for some distance was of a schirrous character. The other intestines were natural, but a quantity of uncommonly hard scybalæ was found in them. The liver was not much increased in size, but uncommonly hard.

Case II.—Oliver Cross, a colored man, aged 58 years, worker of tin ware, of a spare habit, admitted May 24, 1828. He had been attended occasionally, for several years previous, by an eminent medical gentleman, for dyspepsia, under which he labored to a great degree, and for which all the remedies prescribed afforded but temporary relief. At the time of his admission he had the following symptoms:—Small, rapid, regular pulse, tongue clean, skin soft and perspirable, countenance thin, shrunk, and expressive of constant anxiety, bowels obstinately costive and sore to the touch, stomach nauseated, and his general muscular power weakened. Below and rather to the right of the scrobiculus cordis, there appeared a firm circumscribed hardness, not unlike in appearance and touch to a gland, which upon the patient's lying on his back was less perceptible than when he was in an erect posture.

May 24. He rejects from the stomach all the medicines which are given and is ordered an emetic of ipecacuanha, after which he took a scruple of calomel, followed by the cathartic solution, (salts and senna,) and the common enema, which produced two or three alvine discharges; stimulating applications were also externally applied to the abdomen.

It was soon discovered that full doses of calomel, followed by the cathartic solution, produced more natural and complete evacuations, and afforded greater relief, than any other purgative; hence the occasional use of these remedies, with the external application of the ointment of tartrate of antimony, constituted his treatment for several weeks, at which time his gums were touched and he became salivated. During the continuance of the ptyalism, all his symptoms were relieved, but as soon as his mouth healed, his difficulties returned with increased violence; the most nutritious food was rejected from his stomach in a few hours; the torpor of his bowels increased, and his emaciation becoming daily greater, he expired on the 6th of July.

Post Mortem Examination. Lungs and heart natural, liver free from disease. Pylorus hard and schirrous, as was also a portion of the duodenum, the orifice would scarcely admit the passage of a probe, an infinite number of small fatty appendages of a globular shape were adherent to the external coat of the stomach and duodenum. The mesentery and omentum were also covered with these fatty globules, and were thickened and indurated.

Case III.—Joseph Demming, born in Louisiana, aged 48 years, a pale yellow, emaciated, old looking man, by occupation a seaman, and sailing principally in southern climates, admitted August 6, 1828.

Symptoms. Debility, loss of appetite, uneasy sensation at the stomach after meals, flatulence, heat and dryness of the throat and fauces, ankles and legs œdematous, pulse rather slower than natural, tongue covered with a loose fur, urine scanty and high colored, bowels not much out of order.

Having been moderately evacuated, he was put upon the use of the diuretic decoction of the house, (seneka, squills, and nitre,) with the carbonate of soda, and on a generous diet. Under this course the swellings of his feet subsided, but his dyspeptic symptoms, after a temporary alleviation, returned. He complained occasionally of a little pain in the right hypochondrium, which was not increased on pressure, but which was always relieved by the means usually employed in colics. He successively tried the pulv. capsici, gr. v. ter in die, aided by the bitter infusion, the oxide of bismuth, iron and ext. gentian, charcoal, sulph. quinine, but with little benefit.

In addition to the dyspeptic affections, this patient labored under a strangury, accompanied with a deep seated pain in the course of the urethra, and the deposition of a white sediment in his urine. This difficulty was at first relieved by the liquor potassæ, spts. nit. dulc, and mucilaginous drinks, but, in the beginning of the month of October, it was necessary to use the warm bath, and finally introduce the catheter. That instrument being withdrawn, was followed by a discharge of blood and pus, which continued to ooze out for several days. On the 12th of October he voided a calculus about the size of a pea, but the irritation about his urinary organs, joined with the disease of his stomach, destroyed the patient on the 24th of the same month.

Post Mortem Examination. Lungs natural, heart small, mucous membrane of the stomach inflamed and partly ulcerated, the cardiac and pyloric orifices both hard and schirrous. Stomach and bowels contained a dark offensive fluid like blood. Liver enlarged. Bladder inflamed internally, and near the fundus was found an open abcess, containing some matter. Prostate gland enlarged.

ART. VIII. *Case of singular Tumor in the Jejunum, preceded by symptoms resembling Colic.* By E. A. LEONARD, M. D., of Albany. Communicated by A. H. STEVENS, M. D., Professor of Surgery, &c.

I WAS called, on the 23d November, 1828, to Mrs. H., aged 40 years, of good constitution, but whose health for the last few months has been declining : found her laboring under the usual symptoms of colic ; bowels constipated, which she attributes to the use of opium in a recent similar attack ; no tension or tenderness in any part of the abdomen. She had a full dose of opium, followed by calomel and other purgatives, by which she was so much relieved on the 27th, that I did not again see her until the 11th December ; during the interval she had repeated alvine evacuations, but on the morning of the day last mentioned, was attacked again with pain in the bowels, which was severe, and not confined to any one portion of the abdomen, but passing up and across from the right iliac to the left hypochondriac region in the course of the colon. This attack was attended, like the preceding one, by vomiting soon after any thing was received into the stomach ; she was again ordered an anodyne, succeeded by repeated doses of croton oil, castor oil, calomel, and other purgatives, some of which were retained, and others almost immediately rejected. Five days after taking the calomel, her mouth became excessively sore ; this was relieved by a gargle containing pyroligneous acid. Fomentations were applied, and enemata of various kinds, stimulating, anodyne, &c. administered, and tepid water was also thrown up in large quantities. None of the means made use of produced any decided effect. On the 23d she vomited a considerable quantity of fluid, in which the smell of assafœtida was strongly manifest; a portion of the tincture of that substance had been given in injection on the morning of that day. At this time, very careful examination discovered a small space in the left hypochondriac region, somewhat tender upon pressure; this was quite limited, not more than two inches in diameter. On the 24th the change was exceedingly great, the pain had almost entirely abated, and the pulse, which previously at all times had been nearly natural, had now become extremely weak, and scarcely to be enumerated; there was also delirium; ordered tinct. quinine and wine ad libitum; she continued to grow worse, but did not expire until the 27th at evening.

Dissection at 2 P. M., 28th. Body much emaciated; parietes of the abdomen very thin; vessels of the omentum slightly injected; large intestines sound in every part; some old adhesions, but no marks of recent peritoneal inflammation; on examining the smaller intestines, the inferior portion of the jejunum, was found highly inflamed, and on exposing its cavity, a firm, fleshy, or semicartilaginous tumor was discovered, arising from the muscular and covered by the mucous coat, entirely filling it, and even putting its coats very much on the stretch; being in length about two and a half inches. Below the tumor the gut is slightly inflamed and somewhat thickened, but above it the preparation is beautiful, showing the different results from mere irritation to that excessive inflammation, terminating in death of the part. The whole diseased portion of the gut is, in length, about twelve inches. The other viscera of the abdomen were in their natural condition.

Albany, February 10, 1829.

Art. IX. *Some Observations on the Use of Anodynes and Opium in the treatment of Inflammatory Affections*, by the late Dr. Wright Post. In a letter to Valentine Mott, M. D., by F. G. King, M. D., of New York.

In reply to your enquiries as to the use of anodynes and opium by the late Dr. Post, I have to remark, that in conversation with him some two years past, relative to Dr. Armstrong's practice in inflammatory diseases, he told me that the use of opium, as recommended by that gentleman, (except in *larger doses*,) was corroborated by his own experience for a long series of years, and that to him it was by no means a novelty; for that in 1804, he was called to a child about three years of age, suffering under a violent pneumonic attack, accompanied by pain, cough, and great febrile excitement. That he accordingly bled, blistered, and evacuated the patient, afterwards placing him under the use of antimonials, but all without benefit. Matters proceeded from bad to worse, until the child, exhausted by constant cough and excessive restlessness, seemed nearly at the point of death. Under these circumstances, he determined to quiet all these irritating symptoms by a powerful anodyne, and accordingly exhibited sixty drops of laudanum. Two hours after, he was called to the child, then supposed by its parents to be dying. He found the features sunken, the surface covered with a cold clammy sweat, and secretions of an unpleasant appearance about the eyes and nostrils, but the pulse had diminished in frequency, and was more full; the respiration was slower, and every thing indicated the full and desired action of the anodyne. The parents were astonished to hear the physician say that the child would soon be better. The next morning all untoward symptoms had subsided, and the child became rapidly convalescent and recovered.

This was his first trial of anodynes in such affections; his *experiment*, if you please; but a few months afterwards, a similar case occurring, he immediately resorted to the anodyne, depletion and evacuants having been premised, and with similar success; since which period he has generally continued that mode of practice; latterly, however, substituting the Dover's powder in place of laudanum, in pneumonic attacks.

In 1810, he was called in consultation upon a gentleman in Jersey, suffering under enteritis. He found that he had been repeatedly bled, blistered, and evacuated, but to no advantage; the pain still continued acute; the pulse was small, frequent, and chorded; the skin dry and hot. Under these circumstances, he suggested the propriety of exhibiting a powerful anodyne, in order to quiet all irritation, and give nature an opportunity of recovering herself. After a little hesitation on the part of the attending physician, it was finally determined to adopt the course proposed, and 100 drops of laudanum were directed; an hour elapsed—no sensible effect having been produced, when the *dose was repeated*, and in half an hour the patient was under its full influence. He awoke the next day free from pain or tenderness, and so recovered. The same gentleman has been frequently attacked since with the same affection, and uniformly, after being bled and evacuated, he has recourse to his anodyne, which rarely fails to quell the disease. But, to be efficacious, the dose must be *heroic*, at least such was the opinion of Dr. Post, who often remarked that practitioners, especially in England and France, were not aware of the value of opium in inflammatory diseases, for even when employing it in such cases, their doses were too trivial to exert any marked influence over the malady. He himself always exhibited it under the opinion, that to obtain its soothing effect upon the system, and its *paralyzing* influence over the disease, it must be given in large doses. In diarrhœa and certain conditions of dysentery, after having cleansed the passages, he employed laudanum or Dover's powder with the happiest effect ; in fact, he rarely used much else than salts and Dover's powder in diarrhœa, in adults. In his own case he was no less prodigal of anodynes than with his patients. Being, as you well know, for many years a constant prey to pleuritic affections, his treatment of himself was short and efficacious, viz. blisters and purgatives, followed by eighty or a hundred drops of laudanum, which quieted his cough, allayed pain, and soon placed him in condition to resume his business.

In conclusion, permit me to state an occurrence which took place under my own eyes, two years previous to his death. He was then violently attacked with pleurisy, accompanied with much fever, for which he had been purged and blistered, and, at the period in question, was under the use of antimonials. At this time he directed me to give him seventy drops of laudanum. I remonstrated, directing his attention to the dryness of his skin, its increased heat, and the frequency and hardness of his pulse. His answer was, "Believe in my experience rather than in your theory ; give me seventy or eighty drops of laudanum, and an hour will convince you of its propriety." It was given, and within the hour his pulse became calm, full, and slow ; his skin was covered with a gentle perspiration, and his condition strikingly improved. He left his bed the next day, and frequently since has he said to me, "I think I have given you a clinical lecture that you will remember."

Such, my dear sir, are the facts concerning which we some time since conversed, and if they can be of any service to you, employ them as you think proper.

[In addition to the intrinsic value of the practical information which the above communication conveys, it derives a melancholy interest from the premature death of its lamented writer.—*Ed.*]

REVIEW.

Art. I. *Transactions of the Medical and Physical Society of Calcutta.* Vols. II. and III. 8vo. pp. 430—454. Calcutta, 1826–7.

The institution of literary and scientific societies has been found, after the experience of nearly two centuries, to be one of the most efficient instruments ever devised by the ingenuity of man, to promote the advancement of knowledge, and diffuse a general taste for intellectual improvement. The communion of enlightened individuals, devoted to the pursuit of one great object, is admirably calculated to awaken the dormant mind to exertion, to enkindle the spirit of honorable emulation, and induce habits of accurate observation, extensive reading, and careful study. Facts are elicited, opinions are interchanged, and a direction and impulse given to research, at which the solitary efforts of an insulated student would never have arrived. The records of the royal societies and academies of Europe bear ample testimony to the correctness of this statement; and it is a source of no slight gratification to the votary of medicine to ascertain, that of those who have contributed, by their labors, to enhance the value of these associations, his professional brethren have every where formed a conspicuous majority. Of late years the efforts of physicians have been directed to the formation of societies among themselves, and the result has been equally beneficial and honorable to the progress of medical science. In no profession, perhaps, are such institutions more likely to produce happy effects than in that of medicine; and in no one is a record of their transactions more imperiously demanded. Whether we take into consideration the unbounded scope for observation which its active exercise presents, or the illimitable field for speculation which it unfolds, or, lastly, the perishable nature of its ever accumulating materials, which, unless communicated to more trusty guardians than individual memory, must be lost, we shall be compelled to admit the necessity of such a depository. And what, let us ask, is better adapted to quell those petty jealousies, and allay those heartburnings, which too often mar the happiness and lower the dignity of professional brethren, when unconnected by a common and paramount interest?

No slight criterion of the scientific zeal and knowledge of our medical brethren in the employ of the British East India Company is furnished by the volumes now before us. Impelled, doubtless, by the general considerations to which we have briefly referred above, and also by others peculiar to their remote situation, they have accumulated a mass of useful information on a variety of useful and interesting topics. Of these many would appear unimportant to our readers—but with a great many others, it appears to us desirable that they should become acquainted, as being both applicable to their wants and gratifying to their curiosity, and of these we shall therefore proceed to give a selected summary.

The climate and diseases of the Indies have ever possessed, for the medical enquirer, an unusual share of attraction, arising in part from the infinitely diversified nature of the luxuriant products of the soil, in part from the unmarked and severe forms with which disease is endued under a tropical sun, and, not least, from the talent and spirit with which medical writers who have visited those regions have sent forth the result of their personal observations. Great acquisitions have, by their instrumentality, been made to the stock of medical knowledge, and bolder methods of treatment have, upon their recommendation, been successfully pursued in the more violent diseases of temperate countries. A wide field is still open to investigation; epidemic diseases are daily undergoing modifications; the cholera is still spreading its fatal ravages; the nature of the animal and vegetable substances peculiar to the east, and of which many are active poisons and many powerful medicines, is still to be explored and described. It is chiefly with the view of supplying these deficiencies that the information contained in these transactions is published.

Of the first volume the contents have been amply noticed in the British journals. We shall, therefore, confine our analysis to the second and third; the most interesting articles in which are those that relate to medical topography and epidemics, and these we shall especially notice.

Epidemic of Calcutta in 1824.—We have two interesting articles on this fever, of which the characteristics were somewhat peculiar, and not altogether dissimilar to the anomalous or dandy fever which lately prevailed to so great an extent in the West Indies. The temperature from April to August, as indicated by the thermometer, ranged in the shade from 103 to 72°, exceeding but little that of the previous year ; but the heat was more oppressive to the sensations, and the northwest winds which cool and refresh the atmosphere were uncommonly rare. Mr. Twining informs us, that there was a state of the atmosphere in the latter end of May, and frequently in June and July, particularly from the 4th to the 9th of the latter month, and again on the first four days of August, "when there was an intense glare of white light from the whole sky, extremely painful to the sight ; at the same time there was such a hazy state of the upper regions of the atmosphere, that the sun could with difficulty be distinguished. This was attended with a close damp heat, more distressing than the heat of the brightest sunbeams I ever experienced." p. 7. Cholera occurred in a severe and fatal form about eighty miles to the northeast of Calcutta. Some idea may be formed of the fatality which attends this awful disease from the fact, that, in the village of Chakoley, eighty-two out of one hundred inhabitants perished by its fell stroke. Previous to the breaking out of the epidemic which is about to be described, animals, such as dogs, suffered much from an affection, which, upon examination after death, left the stomach empty, the spleen "unnaturally turgid" with blood, and the liver streaked with dark purple and black.

The earliest cases of the epidemic occurred about the latter end of May, a few days after the setting in of the rains. Before the end of June, nearly half of the population of Calcutta had been affected. In July it was distressing to observe the numbers attacked primarily or suffering from relapses, as well as those, who, though free from the urgent symptoms, were unable from debility to attend to their ordinary occupations. The disease was not, however, fatal, nor was it contagious; although, from the circumstance of several persons being successively attacked by it, an opinion of its contagiousness prevailed among some. The natives suffered equally with the Europeans.

The attack of the disease was sudden. The fever commenced with creeping sensations about the loins, succeeded by aching pains in that region, and the extremities became cold. The face was soon flushed, and forehead burning; intense headache, with suffused and watery eyes, followed; the whole countenance seemed bloated and swollen, and there was a dry heat about the scrobiculus cordis. The tongue became loaded with a dense white paste; the pulse was remarkably frequent, often 140 per minute. The pulse afterwards became full, but never hard. There was an extreme prostration of strength early in the disease, with great increase of pain in the loins, and severe pains in the muscles of the limbs. The suffering from pain was a leading feature of the disease. These symptoms went on increasing for twenty-four hours, when they somewhat abated.

On the second or third day a rash, resembling rubeola, made its appearance, and, if universal over the whole body, portended a mitigation of the disease; but, if partial, and less on the extremities than on the chest, neck, and face, was attended with increase of fever and aggravation of pain. This eruption generally faded after twenty-four hours' duration. In some patients the eruption had the appearance of urticaria, affecting more particularly the extremities, the fingers, hands, and feet being swollen, red, and troubled with a distressing itching. After the second day, the symptoms abated. In most cases there was little thirst; the perspiration was suppressed, and its return with warmth in the feet usually denoted a remission of all the symptoms.

Treatment. Venesection was not necessary, and when resorted to invariably increased the debility, and prolonged the stage of convalescence. We have had reason to make the same remark in relation to the heedless and indiscriminate use of this remedy in epidemic affections in this country, such as the influenza, &c. Leeches were useless. To stimulate the lower extremities by having them well rubbed with aromatic spirit of ammonia—the warm bath—a moderate dose of calomel, with an active one of scammony and colocynth, repeated every twenty-four hours, until healthy and free evacuations of a natural color were procured, and afterwards infusion of calumba throughout the day and a purgative at night, constituted the whole treatment.

Mr. Cavell also gives his testimony against bleeding.

Epidemic Fever at Berhampore.—"The suddenness of the attack, the redness and watering of the eyes, the acute pain in all the joints, rendered excruciating on the slightest touch, the scarlet or crimson efflorescence on the surface, its ephemeral duration, its not requiring bloodletting, &c., its neither sparing age, sex, nor habit of body, its seizing the acclimated as well as those recently arrived," render it still more similar, than the last described disease, to the epidemic of the West Indies before noticed.

Hydrophobia.—Autopsical examination of a case of this fatal and terrific disease displayed the vessels of the dura mater and pia mater turgid without extravasation of lymph. The cerebral mass was collapsed, flattened, and softer than usual. The lateral ventricles contained three drachms of fluid. The cerebellum was soft. The amygdalæ of the fauces and the velum pendulum palati were enlarged and red. The appearance of the tongue was striking. The papillæ at the root had assumed the appearance of pustules, some of them as large as the segment of a pea, while *the entrance into the œsophagus was not much larger that that of a male urethra.* The papillæ or pustules had a watery hue at top, and a purplish inflamed base. The viscera of the abdomen were diseased, owing to the intemperate habits of the patient.

Another case is related, in which the unfortunate subject of the disease had been bitten *fifteen, if not twenty, months* before. Morgagni, it will be recollected, relates cases occurring after a lapse of *twenty*, and even *forty*, years; and the Edinburgh Medical Commentaries, *seventeen* years after the bite!

A third case is related by H. Cavell, Esq., occurring in a native, which recovered under the use of belladonna given in large doses, and bleeding to the extent of forty ounces.

Rupture of the Pulmonary Artery.—The patient had been affected, for several years, with uneasy feelings referred to the epigastric region, and general gastric derangement, with irregular action of the heart, accompanied sometimes with a sense of constriction across the chest, increased on using corporeal exertion or too frequent indulgence in spirituous potations. During the last two years of his life, his health had much declined, he complained of want of appetite, indigestion, and occasional fluttering at the heart, obliging him to have recourse to the recumbent posture for relief. The first regular paroxysm consisted of pain and giddiness of the head, throbbing of the temples, indistinct vision, and sudden insensibility. The pulse was sixty, wiry, oppressed, and intermittent. Venesection thirty-two ounces, and a strong cathartic. On the next day he was easier, but complained of headache, throbbing at the temples, and palpitation of the heart. Venesection sixteen ounces, and antiphlogistic regimen. After this he continued well for fourteen months, when he experienced a similar attack and was relieved by similar means. He enjoyed from this time ordinary health, except occasional palpitation and indigestion, for several months, when he was suddenly seized with a lancinating pain in the right hypochondrium, with great dyspnœa, so as to render a change from the recumbent posture insufferable. He also complained of pain in the head, vertigo, and palpitation of the heart. Pulse was at ninety-two and intermitting at every fourth beat; tongue furred, and bowels irregular. The immediate cause of this last attack was intemperance. He was largely bled, and seemed to derive relief from the operation. His pulse fell to eighty-four, but intermitted as before. Cathartics, leeches, and blisters were used, and he appeared to recruit for a few days, when he suddenly expired, after vomiting a small quantity of blood.

Dissection. On opening the thorax, a large quantity of dark grumous blood gushed out; and it appeared that his death had been occasioned by a rupture of the pulmonary artery. The pericardium contained more than its usual quantity of fluid. The walls of the right ventricle were very thin, and in it two polypi, or rather coagula, were found, and the valves of the artery were ossified. The pulmonary artery was extremely thin and enlarged to four times its natural size. An organized polypus was found in it, extending from the semilunar valves about four inches along the artery, of which the circumference was *seven inches*. The rupture had taken place in the middle. There was an opening in the centre of the polypus, through which the blood seemed to be transmitted from the ventricle to the lungs. The aorta and other large vessels were ossified—the former to near its bifurcation into the iliac arteries.

Climate and Diseases of Bencoolen.—Gangrene. Dr. Tytler describes a formidable class of disorders, terminating fatally at times, and confined to the natives. The following example will illustrate the nature of this affection: A native of Hindostan, belonging to the police department, of middle age, and apparently good constitution, was admitted into the hospital on account of a small sore situated over the inner ankle of the right leg. In spite of every remedy that could be suggested, and diet given as freely as the man chose to partake of it, the ulcer became vitiated, and a few spiculæ of diseased bone were discharged from the sore. No benefit followed; and, though slowly, the ulcer became gangrenous, and the patient died from the effects of an extensive and incurable mortification. Upon examining the leg after death, the tibia, through the whole course of its extent, was found diseased, and appeared dry, as if it had belonged to a skeleton. The periosteum was separated, and so much thickened as to present the resemblance of ligamentous substance. The disease appears to have had its seat in the bone. Amputation had been tried in former cases, but proved of no avail; nor did it succeed under the trial of Dr. Tytler. The hospital was crowded with cases of this kind. Bark produced no effect, and fumigations seemed to do mischief. It was evidently hospital gangrene. Its causes were independent of the conditions of the atmosphere or contagion. It was, according to our author, owing to the bad quality and scarcity of the food. Rice, vitiated by the excessive rains to which it is exposed when growing, was the source of the evil. Upon an improvement and change of diet the gangrene disappeared. In addition to a liberal diet, the use of Benteering rum, bark, and a grain of opium in the worst cases, twice or oftener in the course of twenty-four hours, were found beneficial.

Namby.—Another disease, affecting Asiatics, is known by this name, and is characterised by large elevated horny scales appearing on different parts of the surface of the body, which repeatedly fall off and are reproduced as large as before in a short space of time. It is a very obstinate affection, and resists the most powerful remedies. It is generated by the same causes as the preceding disease.

Endemic Fever and Medical Topography of Arracan.—Mr. Grierson is of opinion, that the prevalence and virulence of disease in the army is generally proportionate to the distance from which it comes, the suddenness of its removal, and the nearness of its approach to the southeastern frontier of India. The most obvious difference between the climate of the northwest and southeast of India is in regard to dryness and moisture. The beautiful verdure of Bengal, throughout the year, proves that its atmosphere is always charged with moisture; but at Caunpore and Meerut, where Europeans sleep in the open air, the bedclothes are found free from damp.

Arracan is situated in 20° 35′ N. and 93° E., about forty miles from the coast. It lies on the banks of a muddy river, buried among hills, and invested on every side with jungle and morass. The tide overflows the flat borders of the river to a considerable extent; its reflux converts these into an offensive swamp, and in this swamp a great part of the town of Arracan is built, the water flowing under the houses. The stream itself is made the receptacle of dead bodies, many of which, in the most offensive states of putridity, are constantly to be seen, wherever an obstruction is offered to their progress towards the main stream. About a quarter of a mile from the northwest angle of the fort of Arracan is a large lake, full of weeds, its banks low and marshy, and the water shallow. The hills around Arracan consist of schistus; the soil is luxuriant and rich. The mango and other trees attain to great perfection in the vallies; on the hills the jungle is principally underwood, but on the higher ranges bamboos abound. The prevailing winds at Arracan are the two monsoons, as in Bengal. From whatever direction it comes, the wind comes impregnated with the elements of disease. The quantity of rain which falls is prodigious—being near sixty inches in a month in the rainy season. The great difference between Arracan and the Delta of the Ganges consists in the want of a *general* and abundant annual inundation. In Arracan there is no river large enough to overflow the low lands, and sufficient water falls from the clouds, descends from the hills, or is furnished by high tides to perpetually renovate the swamp, or rather to place the soil in that state of approximation to dryness which is necessary to the extrication of disease. Particular spots in and about Arracan were observed to be more productive of disease than others, such as those placed nearer to the sources of disease, or more favorably disposed for the miasmata to be conveyed upon them by currents of air.

Description of the Fever. The invasion of the disease was sometimes sudden; but, in general, loss of appetite, lassitude, slight headache, and nausea preceded the development of the disease. A sense of coldness, not amounting to rigor, except in a few cases, was felt. When shivering did take place, it betokened an intermittent type of fever. Next followed heat of skin, headache, tightness across the eyes, flushed countenance, full and quick pulse, white and dry tongue, anxiety, restlessness, thirst, and disposition to vomit, sometimes so great as to reject every thing taken into the stomach.

The bowels were sometimes costive; more commonly small, scanty, and vitiated stools were passed every six hours with griping and tenesmus—the patient complaining of their being unsatisfactory, and of there being a load still remaining. The matter vomited was generally mucus and the ingesta, sometimes a very little bile. Bile was in many instances absorbed and conveyed into the circulation, tinging every part of the body with a bright yellow, giving to the fever, according to Mr. Burnard, whose description in the third volume we chiefly follow, "the distinctive character of the endemic of the West Indies," but, as we should say, of the bilious remittent fever; for surely it has no resemblance to yellow fever, the disease generally implied under the above appellation. In some cases, however, the yellowness would be intermixed with a sallow muddy tint. Where the disease showed a disposition to intermit, it assumed the double tertian type, which not unfrequently passed into the remittent. Where the event was fatal, it was occasioned by the lesion of an important organ, most commonly the brain. There were cases in which the febrile symptoms were not fully developed, the system appearing to be oppressed by the first action of the febrile influence. They were characterised by a sense of uneasiness, rather than by actual sickness, heaviness over the eyes, disinclination to move, inappetency, and constipation. The great indications of mischief are to be recognised in the heavy leaden appearance of the eye, and the general loss of energy; the greasy and thick feel of the skin, the deep seated, small, and slow pulse, not perceptible but on strong pressure. We have seen cases of this kind in the yellow fever of the West Indies and the bilious fever of this country, and in the former they receive the name of cold cases. They also occur in typhus, and are classed by Armstrong under his congestive form. The fever sometimes displayed itself in the shape of dysentery and diarrhœa, a troublesome itch being a very frequent attendant on this species of the disease.

Ulcers are another form in which the fever manifested itself. Cases of this kind often terminated fatally with dysenteric symptoms. The foot was the part most usually attacked by sores, and they frequently extended among the toes, burrowing deep among the tendons and under the plantar aponeusosis, but generally on the back of the foot. In the loose texture about the buttocks and verge of the anus, large collections of matter frequently formed, causing extensive and tedious sores.

Wounds which admitted of cure before the rains commenced did well; those which lasted after this period assumed an unhealthy character, or made very slow progress. Fatal terminations from dysentery were common.

Causes. The locality was sufficient to superinduce the disease. To this were added, severity of the season, exposure to weather, intoxication, and finally malaria. To obviate the operation of these causes, in some degree at least, Mr. Burnard recommends the choice of a more healthful locality, the cleaning of the banks of the river, and the erection of a new one of sufficient steepness to ensure depth of water at every period of the tide, and to prevent exposure of neighboring surface. A canal and drains should be cut to carry off the water, and the plain itself should be cultivated with plants which rapidly exhaust the soil. The barrack should be raised to a considerable height, and the sleeping places still higher, and they should be furnished with double roofs and verandahs of considerable width, and have ample drains around them to carry off the rains, &c. Attention should be paid to supplying the men with generous food, warm clothing, and as little exposure to night duties as possible.

Treatment. At the onset, the application of decided measures frequently succeeded in procuring remissions and even intermissions. Mr. Burnard had recourse to ample blood-letting, *ad deliquium*, or *the relief of the symptoms.* From twenty-five to forty ounces were usually required to be detracted to attain this object. Next purgatives were given, as calomel alone, or with cathartic extract, followed by sulphate of magnesia in the infusion of senna in repeated doses till free evacuations were produced. If pain in head has been severe, shaving the scalp and applying wet cloths to it are very proper. To allay thirst, acid drink or soda water may be given. The lancet was rarely required a second time; if symptoms returned, leeches were applied to the head, and a blister to the epigastrium. Blisters to the scalp were only proper in advanced stages when serious effusion was threatened in the brain. We cannot sufficiently commend the propriety of these directions on the use and application of blisters; they are evidences of a sound and practical judgment. Where there was much dry heat on the surface and no local determinations visible, and no inclination to vomit, the cold affusion was both useful and grateful, and proved a valuable remedy in the treatment of the natives who did not require bleeding. After these preliminary means, mercury was the sheet anchor. Calomel alone was administered, or combined with camphor or antimonial powder, or with both, say three grains of each every four or six hours; and a purgative was occasionally interposed, if sufficient catharsis was not present. In a few cases the camphor caused an unpleasant sensation in the stomach, but it generally proved valuable in determining to the skin and allaying irritability. To counteract this last symptom, opium was sometimes used. Where a rapid and decided mercurial effect was desired, calomel alone, in doses of a scruple, was given.

Mr. B. observes of large doses of calomel, that, though safe, it is not so infallible as some authors suppose in inducing salivation. We believe that this observation will be confirmed by a large number of practitioners in this country; calomel not being, by any means, so apt to produce salivation in large as in small doses. We know a gentleman who lately gave to one patient nearly four ounces of this remedy without its producing any effect on the salivary glands. It may be a question with some whether calomel can effectually act in removing local or general disease without the intervention of its specific action on these glands. With us it has long been a settled point, that it may do so, and far more agreeably to both patient and physician.

In an excellent article on the use and abuse of calomel, which appeared in the first volume of the Transactions we are now reviewing, Mr. Annesley came to the same conclusion, and even expresses the wish not to see the mouth affected, as it is his opinion that its occurrence interrupts the salutary action of the medicine, because its use must be interrupted. Mr. Burnard mentions that salivation is not essential to recovery; that it is, when severe, a formidable disease. He admits that mercury will sometimes fail in removing the fever, that relapses often taken place after its use, and that its administration to some habits is poisonous. But he judiciously insists that a general rule of practice is not to be laid down from a few untoward facts, and that the experience of his professional brethren in India, (he might have added in almost every part of the world,) will bear him out in saying that there is no remedy of such general utility as mercury, in febrile affections.

When the disease had lasted eight or ten days, and great debility and irritation were present, hyosciamus and conium given in doses of five or six grains at night were useful.

Mr. Burnard's excellent paper is accompanied by extensive tables of meteorological and other statistical observations, conveying useful and curious information. We mention the fact in this place to excite our readers in this country to emulate the laudable example of their brethren in India, who must necessarily labor under great disadvantages from their remote situation. Yet they seem the more stimulated to contribute their full proportion to the stock of medical knowledge.

Phthisis.—This affection rarely occurs in India, being seldom produced, except where a strong predisposition to it exists in the constitution. But when the disease is once excited, its progress is always very rapid and fatal. Whatever advantage may be derived from a high temperature, is counterbalanced by the strong tendency to hepatic and dyspeptic affections, which always aggravate the pulmonary suffering.

Diseases of Rangoon.—Rangoon is a town situated in latitude 16° 47′ N., longitude 96° 9′ E., and stands on the north bank of a river, extending upwards of a mile in length.

and six or seven hundred yards in breadth. It is encompassed with teak wood timbers and planks ten or twelve feet high, with five gateways. The country around was left uncultivated during the war, and in the rainy seasons constituted an extensive morass, covered with rank grass and broad-leaved water plants. The river, opposite the town, is eight hundred and eighty yards wide; its channel is deep and its sides and bottom are covered with soft mud. There are several tanks in the neighborhood, one being quite a lake. The year is divided into the cold, the hot, and the rainy seasons. In the cold the northwest wind prevails, and the thermometer varies from 60° to 86°. In the hot from 72 at night to 98 and 101 in the middle of the day. This great diurnal variation was not found to be injurious; on the contrary, the grateful coolness of the nights, by admitting of sound and refreshing sleep, relieved the system from the oppression and languor of the day. The quantity of rain in the rainy season and the vicissitudes of weather are very great. The diseases are dysentery, intermittent and remittent fever, cholera, hospital gangrene, and scurvy.

In the treatment of *dysentery*, venesection, scruple doses of calomel, castor oil, senna, fomentations, and blisters were had recourse to. After the lapse of twelve or sixteen hours great relief was generally obtained, when the dose of calomel was reduced to five grains, and given in combination with three or four grains of antimonial and half a grain of opium every four hours till the mouth became sore. If this was speedily induced, the patient's safety was ensured. In cases where no great febrile excitement was urgent, the bleeding was omitted. In chronic cases the ext. colocynth comp. and pil hydrargyri of each ten grains were perferred to the scruple doses of calomel. To allay particular symptoms, subordinate remedies were employed. Strangury and tenesmus were relieved by sitting over warm water, and by the use of opiate enemata and suppositories. The sense of scalding heat in the rectum was diminished by the carbonate of magnesia in doses of one or two drachms. After all excitement and pain had been subdued, and diarrhœa remained, vegetable tonics and astringents were had recourse to, nitric acid, port wine, &c. Leeches to the perineum were applied with great benefit in some severe cases.

In the management of scurvy the vegetable acids produced their usual curative effects.

Diseases of the Spleen in Bengal.—The disease more particularly dwelt on by Mr. Twining is "vascular engorgement, attended with a peculiar state of constitution, unequal to bear the action of mercury without great hazard of inducing alarming debility, and depression of vital power, with tendency to sloughing of the lips, cheeks, and gums, which, when once commenced, does frequently, or I may rather say generally, terminate fatally." The complaint arises idiopathically in children, from the combined influence of a damp climate, want of exercise, unsuitable clothing, or improper and inadequate food. It is, however, most frequently the sequel of fevers, and the invariable consequence of acute diseases. Great heat, our author thinks, is not essential to the development of this disease, as it is most frequent when the cold nights set in, and the blood is hurried from the periphery and accumulated in the centre. May we not insist that it is the great heat of the day which has unlocked and relaxed the surface that renders it so susceptible of the subsequent action of the cold air of night?

Symptoms. Vascular enlargement of the spleen is characterised by a pale and often cadaverous countenance. The eye has a pale blue or pearly appearance, similar to that of hectic patients; the skin is dry and morbidly hot, especially over the abdomen. There are swelling and tenderness in the left hypochondriac region and tension in epigastrio. There is much thirst, but the tongue is clean and moist, sometimes of a glossy hue having its surface marked with deep fissures; sometimes it is of a red color. The stools are scanty and frequent, with tendency to constipation; the urine is pale and copious. The pulse is quick and occasionally hard, appetite indifferent, and digestion imperfect. Debility very great. Where it is the consequence of intermittent fever, agues frequently return, and the last stage is protracted and distressing. This is denominated the *irritative stage* of tumid spleen.

In the simple congestion, the tumefaction of the spleen is greater and more distinct, but there is less tenderness experienced on pressure. The pulse is low and weak, the face is pale, tongue clean and moist, skin cool with a peculiarly dry feel, "like a thin satin loosely laid over the cellular texture." There is appetite, but imperfect digestion, and nutritious food does not restore the strength. When there is ague, there is great distress from distension of the spleen. The respiration is languid and imperfect, the lungs being but partially filled with air. The stools are dark, owing, as Mr. Twining believes, not to disordered bile, but "to a feeble effort of nature to compensate for the inefficient action of the lungs and skin, the great intestines secreting carbon, which gives rise to the dark colored stools." Vol. III. p. 357.

In females, a suppression or retention of the menses is an early symptom or consequence of this affection.

In the *indolent tumid spleen* there is little or no pain; the spleen is hard, and its extent, though not large, well defined; less debility is present, more appetite, digestion better performed, than in the two preceding states. There is often a dry cough, attended with pain in the left side of the chest, shooting at times to the scapula. The use of mercury is less hazardous.

Inflammation of the peritoneal coat, or of the substance of the spleen, is a rare occurrence in Bengal, since on dissection seldom have adhesions or opacities of the peritoneal coat been found. On the other hand, Mr. Twining concurs in opinion with the older medical writers, who state that many cases of cough with pain in the left side, which have been deemed pleuritic, were owing to peritoneal inflammation of the spleen.

The progress of the vascular engorgement of the spleen is more or less rapid in proportion to the shock which the constitution may have received from the climate and from previous diseases. It is often speedily fatal, and death is preceded by dysentery, dropsy, or spitting of blood. Vomiting of blood is rare. Intractable diarrhœa is the most common precursor of death in Bengal. Our author is induced to consider the diseases of the spleen as *the endemic cachexia of those tropical countries that are subject to paludal exhalations.*

Treatment. A steady perseverance in a course of purgatives, combined with bitters and some preparations of iron, a mild and rather abstemious diet, will almost invariably remove recent enlargement of the spleen when congestive.

In the irritative state, leeches to the side and sometimes bleeding from the system, and cathartics as the pulv. jalapis comp. are necessary previous to the administration of iron.

Morbid Appearances after Death. 1st. A soft enlargement, resembling a clot of blood wrapt in a thin membrane. The color was blue or brown or black, and the substance friable.

2d. Opacities of the peritoneal surface from lymphatic deposits.

3d. Adhesions of the peritoneal coat of the spleen to contiguous viscera: these are not common after tumid spleen.

4th. In a few old cases an indurated friable spleen.

5th. A still more rare appearance—a cartilaginous hard lump, or scirrhus.

In the cases which are rendered fatal by excessive purging, numerous small ulcers are found on the internal membrane of the great intestines, while the peritoneal coat is either healthy, or paler than usual.

In conclusion, Mr. Twining endeavors, with great anxiety, to impress upon the minds of his readers the injurious consequences resulting from the use of mercury in these diseases. In this advice he differs from Good, Philip Wilson, Thomas, Cullen, Gregory, and Pemberton, but is supported by Abercrombie and Henderson in the Edinburgh Medical and Surgical Journal. The impropriety of the mercurial practice appears, therefore, to have been observed out of India as well as in it.

Mr. Twining pays a just and merited tribute to the observations of our great countryman Rush on the use of the spleen, and expresses his entire concurrence in the opinions of that ingenious and original writer.

From the minute analysis which we have now completed of the most interesting articles in these volumes, our readers will be enabled to form a pretty accurate conception of the industry and direction of mind of physicians in India. A large number of important facts has been accumulated, and their publication cannot fail to assist medical researches in other quarters of the globe. We have been more minute in our notice, as it is not likely that these Transactions will be republished in this country, and as some of our medical officers may find it useful to become acquainted with the medical topography of an extensive region not unfrequently visited by our public and private ships. We also take this occasion to repeat a hope expressed by us before, that physicians in this country may be induced to collect all interesting details relative to diseases and their causes in the particular districts they inhabit. There is not a spot of ground on the habitable globe which is not fruitful in sources of information to the scientific and professional enquirer, worthy of private observation and public record.

ART. II. *A Treatise on the nature, cause, and treatment of Contagious Typhus. From the German of J. Val. de Hildenbrand, Professor of the Practice of Medicine in the University of Vienna, &c. &c. &c.* BY S. D. GROSS, M. D. New York, Elam Bliss, 8vo. 1829. pp. 175.

DR. GROSS has conferred a benefit on the profession in this country by his translation of the present work. It has long enjoyed a standard reputation on the continent of Europe, both on account of its inherent merits, and because its author had attained an exalted rank as a skilful practitioner, and a careful observer and minute and faithful recorder of facts. He enjoyed ample opportunities of enlarging his professional knowledge and experience in the hospitals of Vienna, of which he had the charge at a period when war and its ravages were developing the most intractable and interesting forms of disease, and he died in 1818, universally respected. With the views of professor Hildenbrand it will scarcely be expected that all readers will coincide. The localist will turn away disappointed, and decry the antediluvian views of the author; the noncontagionist will lament the prejudice which could blind, and the credulity which could impose upon so much sagacity and good sense; and the heroic therapeutist will lament the inertness and irresolute practice too often sanctioned under the specious names of philosophy and reason. All will, however, accord the cheerful meed of approbation to the chaste and unpretending style, the simple and clear descriptions, the profound observation, humane views, and enlightened speculation which in so eminent a degree characterise the present treatise.

Professor Hildenbrand first attempts to define what typhus is. He recapitulates, for this purpose, the views of different authors down to the present day, and, rejecting the confused and vague application so often made of the term to all fevers which are marked by prominent symptoms of nervous debility according to the solidists, or of a putrid alteration of the fluids according to the humoralists, he considers it as a particular species of nervous fever, instead of comprising every nervous fever under the general description of typhus.

It was owing to the arbitrary use of this term that physicians agreed to consider debility as a general and essential character of typhus; that bilious, nervous, malignant, putrid, petechial, nosocomial, prison, and camp fevers were confounded with typhus, which hence became a generic term, a circumstance which has been a source of injury to the diagnosis and treatment of the true typhus; and finally that typhus was not considered an essential and special disease, a peculiar kind of asthenic fever accompanied by the predominant symptom of a stupor of the senses. The following is the author's description of typhus:

> "The contagious typhus is an essential fever, which presents a constant uniformity in its progress. It is a disease of a peculiar kind, and, like the smallpox, it is of a contagious nature; since, by means of a peculiar matter, which is developed during the disease, it may be transmitted and communicated to those who are predis-

posed to it. It has a peculiar exanthema, by reason of which it belongs to the family of exanthematous fevers, among which the contagious fevers are ordinarily arranged. It has a definite course, as well as different characters in its proper stages, and a constant and uniform symptom of stupor, with delirium or typhomania.

"In its nature, also, the contagious typhus, as has been ingeniously remarked by Galen, presents more or less evident biliary derangement; in a word, it is a fever which is in itself, sometimes inflammatory, sometimes nervous or putrid, and which may at all times assume these characters."

He then distinguishes it from other affections with which it is most liable to be confounded.

"The typhus is distinguished from the malignant fever, by the fact, that the malignity, even when it causes a sudden depression of the vital powers as the meaning of the term indicates, is not necessarily contagious, and that it is in general only a symptom which may accompany every kind of fever, and even the typhus itself, when it has an anomalous course.

"It is distinguished from the pure nervous and asthenic fevers, properly so called, in this, that, although these fevers are ushered in with true vital debility and the ordinary nervous symptoms, they are not contagious; and the affected nervous system manifests only some particular signs of this contagion, as, for instance, the stupor and some others which we shall hereafter describe when speaking of the course of typhus. The exanthema, perhaps, also establishes some difference, as well as the periodical exacerbations, which are more peculiar to the simple nervous fevers.

"It is distinguished from the putrid fevers, by the fact, that the character of putridity of these fevers is only symptomatic, and occurs during the course of every kind of fever, and is even sometimes, in anomalous cases of contagious typhus, a symptom of this disease. As long, however, as it is not typhus, it is not of a contagious character, and appears to be, in every respect, an acute scorbutic disease.

"It is distinguished from the inflammatory bilious fevers, which, so long as they are simple and unconnected with any other disease, are not only destitute of contagion, but they are distinguished by their characteristic phenomena, and especially by the absence of nervous symptoms. They manifest, also, in general, rather a state of oppression of the vital powers than any real debility.

"Typhus, in a word, is distinguished from all the fevers which we have just enumerated, and from all those which have any resemblance to it, by certain essential and predominant symptoms, and by a peculiar and determinate course."

The typhus is next divided into the malignant and the ordinary Under the first division, are classed the eastern typhus or plague, and the western typhus or yellow fever. To this classification, arbitrary and depending upon the acceptation of a name, we have no especial objection; but when the author, to support this acceptation, insists that, although the exanthematous eruption in the yellow fever is different from the ordinary symptom of European typhus, the typhomania and affection of the liver are invariably present and constitute the most common symptoms of the disease, we must enter our protest, on the simple ground of contrariety of fact. That the liver is sometimes found affected in subjects who have died of yellow fever, we are not disposed to deny—but this is an accidental and occasional attendant, not an invariable or essential concomitant of the disease, and the typhomania or stupor is still a more rare symptom—if indeed the stupor so peculiar to typhus be ever present in unmixed yellow fever. There is a form of yellow fever, occurring under peculiar favoring circumstances, in which the symptoms of typhus are blended with it, and, then the typhomania is prominent.

Under the ordinary typhus are comprehended several varieties; the typhus of hospitals and lazarettoes, of prisons and camps, ships and besieged cities—and that which, originating in small communities, is extensively communicated, so as to become endemic (?) like the fever of Hungary, or epidemic like malignant, putrid, and petechial fevers. "When these fevers are spread by contagion, they are nothing else than an ordinary typhus, and then they also are contagious." Were we disposed to cavil, we might comment freely on this passage, and show the difficulties which beset the statement here made by the German professor. But our object is to make our readers acquainted with his views, not our own; these last we shall have occasion to explain in a future article.

In a review of the history and antiquity of typhus, the author expresses it as his belief, that, as the causes which produce this disease have been the same in all ages, it has probably exercised its ravages from the earliest periods. He alludes to several epidemics which have been most remarkable for their destruction, and more especially to one which made its appearance in 1809, while he was composing the present work. " The germs of this disease were partly developed in consequence of the crowded apartments of the soldiers, partly in consequence of the unwholesome situation of the camps, and partly, also, in the hospitals, whence it spread, after the evacuation of the convalescent, and followed their different routes, so as to produce the most extensive ravages. The direction of this disease could be easily traced, by following the route of the infected soldiers." p. 16. As faithful journalists we record the above facts, leaving it to the philosophers of epidemics who deny the existence of contagion in fevers, to explain them away.

The author next divides typhus into communicated contagious typhus, and originary typhus.

By the first is understood that which attacks a person in health, or one who has already been suffering from previous disease, but which has no connexion nor dependence upon that disease, but which results solely from contagion.

The second is that typhus which is developed spontaneously by some other disease, and by means of certain requisite conditions, without being produced by contagion, but which may afterwards be communicated by a subsequent contagion.

Typhus is also divided into the regular and irregular. It is regular when it follows, like the smallpox, a determinate course; irregular, when this course is disturbed by any cause.

The disease runs through eight periods or stages. The first period is that of infection; the second is the forming stage; the third is the stage of invasion; the fourth, the inflammatory stage; the fifth, the nervous; the sixth is the critical; the seventh is the stage of remission; and the eighth, the convalescent stage. Under each head the author has entered into a minute description of all the symptoms as they successively arise. Several of these stages are but momentary—thus the *first* lasts only the very short instant of time during which the contagious poison is conveyed into the healthy human body. Professor Hildenbrand doubts the existence of any sign by which the precise moment can be determined when the poison enters the system. The second or forming stage is accompanied by the ordinary precursory symptoms of all febrile diseases and need not be enumerated. In the third or invading stage the horripilations are particularly severe, and last from six to twelve hours.

Fourth, or inflammatory period. This might be called the inflammatory, catarrhal, or exanthematous stage, the stage of irritation or ebullition. This lasts seven days, and forms the first septennary of the disease. In this period there is no real debility—the usual symptoms of inflammatory actions are present, as a frequent, strong, full, and oppressed pulse; loss of muscular power; a general turgescence with redness; a white and moist tongue; oppression at the chest; a moist skin; scanty, red, and scalding urine; constipation of the bowels; continual exacerbations without evident remissions, and a buffy appearance of the blood. These symptoms are not unaccompanied, however, by others which distinguish it from simple inflammatory fever. These are catarrhal and gastric symptoms, and on the fourth day the eruption of a peculiar exanthema; and to these must be added the remarkable stupor and vertigo, which are similar to the intoxication produced by spirituous liquors or narcotic poisons. There is, also, an invincible repugnance, on the part of the patient, to perform the least motion, difficulty of speech, and moving the tongue.

On the fourth day the exanthema, deemed by our author to be so characteristic of typhus, makes its appearance. In order that this important feature of the disease may be properly understood, we shall quote its description at large.

> "On the fourth day there is generally a slight degree of hemorrhage from the nose, which is always accompanied by a temporary relief of the encephalic symptoms. The blood which is discharged, is generally thick and consistent.
>
> "There appears, also, about the same time, an extraordinary redness upon the whole surface of the body, that is, upon the external tegumentary membrane, which forms what is called the exanthema of this disease.
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> "This exanthematous eruption, and the nasal hemorrhage, probably arise from the same cause, and are, no doubt, owing to the plethoric state of the small capillary vessels, which gives rise not only to the dilatation and redness of the cutaneous vessels, but also to the slight effusions into the cellular tissue, which are nothing else than an internal hemorrhage of these small vessels.
>
> "The absence of analogous symptoms in the internal organs, which are affected in a similar manner, permits us to presume, that this turgescence is less prominent in the internal parts and the viscera, except, perhaps, in the lungs and the intestines, than upon the external tegumentary membrane.
>
> "In the first case, when there is a simple dilatation and turgescence of the cutaneous vessels, with an imperfect distribution of the fluids, there will be a mere redspotted exanthematous eruption. We may remark, however, that the tegumentary membrane of the healthy subject sometimes presents a red, and, if we may be allowed the expression, a marblelike color, which is unequally diffused, and is particularly observable when the skin is somewhat cold or chilly. It is in this manner that the redspotted exanthematous eruption of typhus sometimes makes its appearance; an eruption, which is very easily succeeded by small vesicles, called sudamina, and by small red pustular elevations, which are not unlike the purple pustules which occur in the malignant fevers.
>
> "This exanthema, which has all the properties of the purpura rubra, is observed on the surface of the body, the face, and especially on those parts which are subject to warmth, as the back, the breast, the upper part of the thighs, and the anus. This eruption, which is more conspicuous in proportion as the eyes are more red and affected, has often been confounded by physicians with the true

purple eruption; and there have not been wanting some who have regarded the purpura rubra as a typhus fever; and to this fact, no doubt, are owing the disputes that have arisen concerning the contagious and noncontagious nature of the purple fevers.

"The cutaneous exhalation which takes place during the exanthematous eruption, and which is interposed between the epidermis and the skin, is unquestionably the cause of the separation of the epidermis, and contributes, when this matter becomes dry, at a more advanced period of the disease, to the desquamation of the cuticle and to the falling off of the hairs during the period of convalescence.

"But in the second case, when there are small effusions of blood between the epidermis and the skin, with a general turgescence of the cutaneous organ, they form what are called petechial eruptions, either with or without the red purple efflorescence. These petechial eruptions, which, in this period of the disease, are only very small red ecchymoses, do not belong to the essential phenomena of typhus, and are developed only in consequence of certain requisite conditions. They are not always found in cases of typhus; and in case they do occur, when the patient is suffering from the bites of the flea, they may be easily confounded with them. It often happens, also, that they are not at all remarked, unless the patient is examined with great care."

After a careful perusal of the foregoing extract, the reader will be equally prepared with ourselves to decide whether the learned author is justified in considering typhus to be an exanthematous affection, a congener with smallpox, measles, &c. We are free to state our doubts; and they rest chiefly on the fact, that the mottled appearance of the integuments, which is denominated an eruption by Hildenbrand, is no more, or less than a simple congestion of the capillaries, throughout the system—not an essential disorder of the skin, properly so considered. In this view we think we are borne out by his own statement, that this "exanthematous eruption and the nasal hemorrhage are, no doubt, owing to the plethoric state of the small capillary vessels," &c.

The inflammatory affection of the parotid glands, is the next symptom noticed as essential to typhus. Hildenbrand thinks, that although they are not perceptible in the mitigated forms of the disease, or not very conspicuous, it is not, therefore, to be concluded that they do not exist. The difficulty which the patient experiences in opening his mouth, the derangement he suffers in the sense of hearing, the noise and singing in the ears, and the profuse discharge from them often occurring in convalescence, are abundant proofs of the affection of these glands.

Fifth period, or nervous stage. This embraces the second septennary of the disease, and gives evidences of the nervous system being principally affected. The inflammatory, catarrhal, and exanthematous symptoms disappear, but the fever does not abate, nor do the vital powers regain their energies. The pulse is more feeble and less frequent ; the turgescence of the internal organs and the external surface disappears ; the skin and tongue become dry ; the urine is more limpid and pale, and the alvine evacuations more frequent and colliquative ; the intellect and the senses are depressed, and there are irregular actions of the nervous system. The author does not think that there is real debility present, as the disease will frequently terminate in a favorable crisis if it is left to itself, and not interfered with by unnecessary remedies. We commend his description of the particular symptoms of this nervous stage to the special notice of the student, as a chaste and complete model for monographic composition. We shall offer one extract descriptive of the stupor, so peculiarly characteristic of the disease in whatever situation it occurs. It will be recognized by every observing practitioner.

> "This indifference of the patient, suffering from typhus fever, to every surrounding object, is so remarkable, that he is perfectly regardless of his own situation, having no anxiety for his recovery, nor attending to those duties which he is called to perform by the instincts of nature.
>
> "There is, therefore, perhaps no disease, except apoplexy and phrenitis, in which the patient is less sensible to pain, and so truly indolent, and in which he dies with less pain and regret, than in typhus. He is, as it were, a mass without desire and volition, being occupied only with the present, without any reflection on the past, or any anticipation of the future. His attendants, moreover, are constantly obliged to urge him to take such things as may be useful, and to abstain from such as may be injurious.
>
> "The stupor, then, in all its different degrees, is, generally, the most essential, the most characteristic and constant symptom in every stage of this disease. It is, as we have already said, perfectly analogous to intoxication ; and upon it appear to depend all the other symptoms of the disease which distinguish the affection of the nervous system.
>
> "This stupor, which is very clearly manifested by the indifference of the patient to surrounding objects as well as by his carelessness and want of motion, establishes at first sight, even in the eye of the empiric, a certain diagnosis of typhus, which is frequently distinguished in the hospitals by this symptom alone, among a host of other diseases."

The *sixth period, or critical stage*, is characterized by a general restoration of all the secretions, the relaxation of the constricted skin, expectoration from the oppressed chest, moisture on the tongue, and renewal of the healthy discharges from the bowels, kidneys, and all the important viscera. This is followed by the *stage of remission*, and by *convalescence.*

Irregular Typhus.—Anomalies in the symptoms of this disease may be induced by particular predispositions in the patient, by the prevailing epidemic constitution, and by the unfavorable influence resulting from the habits and regimen of the patient. Passing over the anomalous symptoms at the outset of the disease, the most remarkable irregularity which presents itself is the unusual intensity of the inflammatory stage. This may be a pure synocha—consisting in "an excitement of the vital powers—in a general plethora, and in an inflammatory disposition of the mass of the blood, *unaccompanied by any predominant local affection.*" Professor Hildenbrand has, in the last clause, given his testimony in favor of the existence of an essential general fever, independent of local inflammation, and will, in all probability, be regarded with distrust by the disciples of Broussais, Marcus, and Clutterbuck. How far his opinion will be deemed valuable by the majority of eclectic practitioners remains to be seen. He does not deny that local inflammations will sometimes accompany this fever—on the contrary, he asserts in the very next sentence that "in some cases, however, there are violent local inflammations, in which are concentrated, as it were, the sufferings of the patient and the peculiar phenomena of typhus." p. 59. He then goes on to detail the particular symptoms which denote the coexistent inflammation of the viscera of the head, the chest, and the abdomen with typhus, and adds, "In all these cases, the physician may easily be led into error, and take (mistake) typhus for an essential inflammatory fever, accompanied with local inflammation."

In certain cases the gastric symptoms are so prominent, that it is difficult to designate the disease as typhus, until the seventh day, when the supervention of the nervous stage will decide and render evident its peculiar character.

Again: *The exanthema may be absent, or altered.* The author acknowledges that there is no symptom belonging to typhus which is so variable and subject to so many irregularities as the eruption. It is sometimes altogether absent, or is so concealed as not to be perceptible; at other times it appears under the form of a miliary petechial eruption, and it does not always give the relief usual in the ordinary course of the disease.

The nervous symptoms sometimes acquire an unusual intensity, and the debility becomes so great that the disease proves malignant and suddenly fatal. Putrid symptoms make their appearance; the fluids become impoverished, and the blood is extravasated both internally and externally —there are black petechial eruptions, hemorrhages, a disposition to gangrene, diarrhœa, a putrid fetor, and all the symptoms of a speedy dissolution. These may be developed either by a peculiar predisposition on the part of the patient, by a stimulating plan of treatment at the commencement of the disease, or, on the contrary, by too debilitating a plan, as copious bloodletting and powerful cathartics, or by the exhaustion from evacuations and hemorrhages, or irregularities in diet, want of cleanliness, moisture, heat, cold, the influence of moral affections, and lastly by a foul atmosphere.

Worms are frequently present in this disease, of the species ascaris lumbricoides.

The disease, in such anomalous form, seldom terminates on the fourteenth day, but is protracted to the seventeenth, twenty-first, or even the twenty-eighth day. The causes which retard the salutary crisis are the local affections, especially those of the lungs and intestines—a debilitating plan of treatment, spontaneous evacuations, passive hemorrhages, diarrhœa, &c., and a stimulating plan of treatment which leads to great and unconquerable debility.

The laws which govern the contagion of typhus and its modes of development form the next subject of enquiry. The matter is not developed in every stage of the disease, but probably at the moment of the appearance of the exanthema. In the nervous stage of the disease, the dryness of the skin proves that the contagion is not uniformly communicated by means of animal mucus, nor by the mediate or immediate contact of this matter, but that it is effected under the influence of an artificial atmosphere in which the patients are immersed. The miasm of typhus, after having produced its effects, destroys, for a time, the susceptibility of the system to a similar contagion. This lasts not for life. It possesses a mode of action analogous to that of narcotic poisons, only more permanent. It may be communicated mediately or immediately; the former obtains when the disease is contracted by touching persons who have been in contact with the sick, or dead substances impregnated with the contagious miasm; such as animal and vegetable substances.

as skins, furs, hairs, cotton, hemp, flax, &c. These are called conductors of contagion—others, such as metals, earths, glass, &c., are called nonconductors, and have the power, according to professor Hildenbrand, of consuming, decomposing, or destroying the contagious matter, or "of retaining it so as to be incapable of spreading it to a living subject"!!

We quote the following fact that the American reader may be aware how far the belief in contagion can go among those who once admit its existence:

> "Experience proves that the pestilential virus preserves for a long time, and according to some, for several years, its contagious power, especially when it adheres to substances that are well calculated for its reception. The same observation may, also, in some measure, be applied to the smallpox, and even to scarlatina. While visiting a patient, who labored under an attack of scarlatina, I wore a black coat, which I carried with me, about a year and a half afterwards, from Vienna to Polodia, where it communicated to me that contagious disease, and where it afterwards spread throughout the province, in which it had before been almost entirely unknown."

In order that the contagion may act, it is necessary that heat lend its agency, that the matter be actually introduced into the healthy body, and that the body be susceptible to its action.

Professor Hildenbrand thinks that heat is indispensable to the propagation of contagion. In warm climates he asserts that the contagion of fevers is sensibly increased. We fear that there will be many, very many tropical physicians who will demur against the accuracy of this statement, although advanced under the sanction of so respectable a name. Cold, on the other hand, completely destroys the germ of the contagious miasm. To those who recollect the spirited discussions which were carried on some years since on this subject, the work of Hildenbrand will present some curious matter for speculation. *Non nobis tantas componere lites.* The explanation of the difficulty is probably to be found in the simple fact, not overlooked by the author before us, that too great heat as well as too great cold will destroy the miasm, and that moderate heat, such as the ordinary temperature of animal heat, especially when confined in crowded and ill ventilated buildings, is the most favorable to its development and propagation. And this explanation will suffice, whether we admit the existence of a contagious principle, or believe in the exclusive agency of an independent febrific miasm.

It is by the cutaneous system, in our author's opinion, that the miasm enters the human body.

The following remarks will be found practically useful, even to the noncontagionist, as being applicable to a prophylaxis against malaria as well as contagion:

"With respect to the state of the body, it may be remarked, that weak and delicate persons, and those who have a fine and lax skin, are generally the most subject to this contagion; while those, on the contrary, who are of a rôbust, plethoric, and vigorous constitution, are rarely affected.

"In relation to diet and the mode of living, it may be stated, that all persons who have been weakened by abstemiousness are particularly subject to the contagious typhus. The privation of strong drinks, the effects of hunger and cold, the moral affections, fear, anxiety, and grief, as well as numerous other affections, are extremely well calculated to give rise to a peculiar susceptibility to this contagion. It is for this reason, therefore, that persons should never visit patients who labor under an attack of typhus with an empty stomach, in a cold and humid temperature, and under the fear of taking the contagion; because it has been proved by ample experience, that such persons are exceedingly liable to contract the disease. It is for this reason, also, that persons who travel during cold and rainy seasons, are likewise extremely liable to take the disease, especially when they are obliged to sleep in beds that have been infected with the smallest quantity of this contagious matter. Those, on the contrary, who drink wine and brandy, smoke tobacco, are gay, and courageous, are but seldom subject to it; because the body, being in a state of warmth and excitement, is capable of reacting upon all such occurrences, as might, under other circumstances, exert an unfavorable influence. From this, it is obvious, that it must be less dangerous to visit patients laboring under an attack of typhus, after having taken something to eat, a glass of wine or brandy, after smoking a cigar or a pipe of tobacco, especially, if with all these the mind is cheerful and unruffled. It is for this reason that stimulating remedies have for a long time been regarded as more sure antipestilentials than most other debilitating means, such as the continual spitting at the bedside of the patient, and even the employment of vinegar; although with respect to the latter, it must be remarked, that it has the power of neutralizing the contagious maism, and that it cannot be disputed, that it possesses the property of contracting the pores of the skin, and thereby enfeebling its susceptibility to the contagion.

"The disposition of the skin of a healthy individual, may likewise, so far as it depends upon the mode of living, and the various functions of the body, present a great influence upon the susceptibility to the contagion; for it may be greatly favored both by its roughness, its hardness, and its want of cleanliness; with respect to cleanliness, however, it must be remarked, that filthy persons, such as chimneysweeps, and those whose skin is impregnated with greasy substances, &c., suffer but seldom from the contagion, because the virus is, as it were, repelled, and cannot traverse the filthy substances which surround the skin."

When typhus terminates fatally, it is most commonly rendered so in consequence of debility or apoplexy. Although, as we have seen, our author believes in the essential character of fever, he is ready to admit that the debility which proves fatal is frequently owing to inflammation and gangrene of the intestines, which he considers an extremely common phenomenon in typhus.

Typhus may also terminate in other diseases; 1st, by internal metastases giving rise to engorgements and local inflammations, which cause a slow fever never permitting a perfect convalescence. The symptoms of the consequent disease will vary according to the seat of the metastatic affection. Thus, when the head is affected, the patient is affected with vertigo, blindness, and imbecility of mind; when the chest suffers, there will be chronic coughs, asthma, hemoptysis and phthisis; if the evil be in the abdomen, obstructions of the liver and spleen will be evident, from whence arise cachexy, dropsies, jaundice, hypochondriacal affections, &c. 2d. By external metastases, giving rise to critical swellings of the glands, as the parotid and axillary—to cataracts, purulent otitis. 3d. By the conversion of local inflammation into internal suppurations which terminate fatally. 4th. By external local gangrenes, which readily assume the character of ulcers. Professor Hildenbrand has observed a gangrene of the nose in a few instances, but none of them terminated fatally. He has also seen dry gangrene occurring on the hands or feet. 5thly. By a continual debility and exhaustion.

Prognosis. Besides the rational signs which enable us to foretell the issue of this disease, there are others which our author considers empirical, and not to be satisfactorily explained. Such are a spontaneous vomiting during the first days of typhus, especially if followed by a relief of the vertigo, a moderate degree of nasal hemorrhage followed by a similar relief, lucid intervals in the morning, and a somewhat unimpaired memory, mild peripneumonic symptoms, a spontaneous and moderate diarrhœa early in the disease, difficulty of hearing depending upon a suppression of the alvine discharge, moderate thirst, a moist tongue, an open and not too frequent pulse, and above all a mild nervous stage and the preservation of the integrity of the vital organs.

The unfavorable symptoms are, of course, all those which are the reverse of the above, and also the following:

> "The want of relief after the first, and the subsequent spontaneous vomitings; extraordinary alterations in the features of the face from the commencement of the disease; the absolute absence of thirst; a continual and violent delirium; and a precocious appearance of the petechiæ, which are always unfavorable symptoms during the early stages of the disease.
>
> "The continuance of the peripneumonic or pleuritic symptoms into the nervous stage, a continual cough, and a reddish expectoration, are extremely unfavorable symptoms.
>
> "The swellings of the parotid glands, which come on at an early stage of the disease, and are purely symptomatic, are always, especially when they appear on both sides, dangerous precursors.
>
> "But the most dangerous symptoms in the nervous stage of this disease, and which generally lead to an unfavorable termination, are, blindness and an involuntary discharge of tears; hiccough; paralysis of the tongue; a continual mussitation; a great and uncomfortable heaviness of the body; a continuance of the petechiæ; a small, oppressed, and frequent pulse; spasms of the bladder; pain on pressing the abdomen; inflammation of the intestines; tympanitis; continual movements of the hands, and gesticulations; paralysis or contraction of the muscles of the upper lip, and consequently exposure of the teeth; a continual and debilitating diarrhœa; dysentery, &c. The total want of action of vesicatory applications, always indicates the greatest and most dangerous insensibility."

In some concluding remarks on the prognostics the author takes occasion to warn the physician lest he form a too hasty opinion in the case of patients who are laboring under grief and misfortune, because persons of this description not unfrequently succumb even when the disease is slight. Women generally recover more easily than men, and in them Hildenbrand insists we may always form a pretty correct prognosis. Pregnancy always aggravates the danger.

Treatment. Following the path of observation, of experience and analogy, Hildenbrand assumes it as a postulate that typhus, like all contagious fevers, is frequently cured of itself by the mere action of the vital powers, unassisted by art. In proof of this he avers his own case, in which, whether owing to delirium, to obstinacy, or a want of confidence in medicine, he took nothing during the whole course of the disease (except an emetic at the commencement which he himself administered after a considerable bloodletting) but lemonade and water, and he nevertheless surmounted the disease on the fourteenth day. It might be urged that the active treatment in the commencement had no small influence in the subsequent favorable termination of the disease; but we shall not be captious. The baron de Stork is also cited as having treated the disease successfully by the simple employment of wine whey.

The second postulate laid down is, that the disease can only be arrested in a certain determinate time, and its type can by no means be abridged, any more than that of the smallpox and other exanthematous diseases. The only duty devolving on the practitioner, then, is to watch the means employed by nature in the accomplishment of the cure, to assist her operations, and remove every obstacle to their unimpeded salutary action. This is called the indirect method.

In the treatment of the stage of invasion, the author denies that either theory or empiricism have yet been able to devise any means capable of abridging the course of the disease. It is therefore a most important practical rule, not to employ any powerful remedies during this stage, and especially during the chills, as they are frequently necessary to the sanative operations of nature. Interference with these might lead to dangerous, if not fatal, consequences. How this rule will be received by physicians in this country, who are accustomed to combine all the resources of their art in the very earliest periods of diseases, we can be at no loss to conjecture. Professor Hildenbrand has ever condemned the employment of bloodletting for the oppression at the chest, of emetics for spontaneous vomiting, of blisters for vertigo, &c. all which are so indiscriminately and heedlessly prescribed by hypothetical physicians. He recommends those means which are calculated to relieve the universal spasm, and the contraction of the capillary vessels, which, being obstructed by the fluids of the larger vessels, occasion the compression of the nerves, and impede the action of the vital powers. Tepid drinks, infusions of alder, orange, or camomile flowers, to promote gentle perspiration, are, with moderate heat in the bed, the best remedies.

Treatment of the inflammatory stage. Emetics are the means most relied on, as slight resolutive medicines, to disperse the inflammatory symptoms and restore the checked functions of the skin.

In no other exanthematous disease are emetics so serviceable as in typhus, and this is one of its distinctive marks. The proper time for their administration is the first, second, and third days after the chills. Ipecacuanha alone, or combined with tartar emetic, is preferred. They may be given with advantage later in the disease, and when there is no inflammation or real debility. The effects of either spontaneous or artificial vomiting are a diminution of the stupor, greater serenity of mind, less delirium, tranquil sleep, perspiration, reduction of heat, thirst, and anxiety, and a more favorable aspect of countenance. The following are the concluding remarks:

> "1. That emetics administered soon after the invasion of the disease, and before there is any decided inflammatory character, certainly produce the most salutary effects, inasmuch as they do not augment the subsequent inflammatory state.
>
> "2. That this inflammatory state, at the commencement of typhus, is not purely inflammatory and phlegmonous, but solely a fallacious inflammation; and that it may justly be regarded as catarrhal. In this case, emetics, when administered under certain conditions, may undoubtedly prove salutary, especially by making a favorable impression upon the deranged functions of the cutaneous organ.
>
> "3. That where there is a highly inflammatory state, and a considerable affection of the lungs, we may always precede the administration of emetics by bloodletting, as I did in my own case, on account of the oppression at the chest. On the second day I took an emetic, applied a blister between my shoulders, and abandoned myself to my fate, like a vessel on a stormy ocean, without sail or rudder. My confidence in medicine was completely lost, inasmuch as I believed, that in typhus every thing depended upon the proper management at the commencement of the disease.
>
> "4. That in a violent inflammatory state, emetics are not really indicated, and that we ought, on the contrary, cautiously to abstain from their use."

Among the mild resolutive means to be given after the operation of the emetic, the author prefers a decoction of marshmallows with a small quantity of the sulphate of magnesia, and of tamarinds, or of the syrup of alder berries, and for drink a decoction of barley water with oxymel, or warm lemonade, &c.

Among the injurious means which are too frequently had recourse to in the management of typhus, our author enumerates bloodletting, purgatives, tonics, and stimulants. These last he deems always, and to the highest degree, injurious. The two first may be sometimes indicated.

In the nervous stage it is necessary to sustain and rally the vital powers, and pay attention to the approaching crisis. Blisters, camphor, and arnica, are the remedies chiefly relied on. Emetics should, however, not be neglected; they are especially indicated if they were neglected at the beginning of the fever.

The remarks of professor Hildenbrand on blisters, are characterized by great practical discernment and good sense. We can only extract a portion of them.

> "There are no curative remedies, that are so well adapted to the state of the fever, and the symptoms of the nervous stage, as the employment of blisters. The indications which are to be fulfilled consist in raising the vital powers, which are threatened with depresssion; in making a revulsive impression upon the sensorium, and a strong impression upon the nerves; in reestablishing the perspiration, and in moderating the copious alvine evacuations. What means can be more proper to effect this object than blisters? There is no remedy in the whole catalogue of the materia medica, that unites these properties in so eminent a degree, as the medicine of which we are speaking. The effects of blisters are seldom fallacious, unless the physician has not chosen the proper time for their application, which is on the seventh or eighth day of the disease, that is, at the moment of the invasion of the nervous character: it is always better, however, to employ them too soon than too late.
>
> "Blisters should never be employed as mere rubefacients, but they should always be kept on until they have produced a decided impression upon the skin.
>
> "I believe, therefore, that blisters can produce no beneficial effect, when employed merely so as to vesicate the skin, and to produce a slight discharge of serum, for it will readily be perceived that so trifling a loss of fluids cannot in any degree weaken the disease; on the contrary, I sincerely believe, that the greatest advantages of blisters are to be derived when their application is continued so as to produce ulcers.
>
> "The most proper and convenient places for the application of blisters in this disease are, unquestionably, the calves of the legs, and the nape of the neck. There may be cases, however, where it may be necessary to apply them to the arm, or to any other part of the body, according to the revulsions that are intended to be produced. Notwithstanding this, they should never be applied to the thighs, because there they generally produce the most severe pain, and even obstinate ulcers. Campbell proposes that they should be applied upon the head, after the scalp has been well shaved.* But, for my own part, I have found this method barbarous and frequently injurious. The revulsions of the head are usually produced in the most salutary manner, by the irritation of the remote parts; and when there is no peculiar anomaly, the ap-

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* This ridiculous practice of shaving the head, and of applying blisters to it, in cases of fevers, ought, we conceive, to be deprecated by every well informed practitioner. It not only greatly disfigures the patient, but, what is still worse, it generally produces an effect directly opposite to that which the blister is intended to exert.—S. D. G.

plication of a blister to each calf is amply sufficient to produce every desirable effect, in the treatment during the nervous stage of this disease."

Ten or twelve grains of camphor per diem are sufficient, say a grain every two hours. Larger doses are generally injurious. We shall extract the author's remarks on arnica, as they will be novel to our readers.

> "The flowers of this plant, as is well known to physicians, have the property of exciting and of producing a shock in the animal economy, and when given in large doses, of occasioning vomiting. The nausea which they create in this stage of the disease is so beneficial, that it cannot be equalled by any other medicine. They have the property, also, of acting upon the brain, not only by imparting a shock to its most delicate fibres, but likewise by preventing the stagnation of the fluids, and of dissipating, or greatly diminishing, by this means, some of the cephalic symptoms arising from the general debility of the system.
>
> "They often allay the delirium and vertiginous stupor, and act likewise beneficially in reestablishing the functions of the skin, and much more so in proportion as the inflammatory symptoms are dissipated.
>
> "The ordinary dose of this remedy, is from two to four drachms a day, according to the irritability or stupor of the patient. It is best given in the form of an infusion or a mild decoction.
>
> "I have seldom seen this remedy produce vomiting, though it frequently creates nausea, in consequence of its unpleasant taste. It does not, like the other emetics, increase the alvine evacuations, but, on the contrary, it rather moderates the spontaneous discharges."

Diffusible Stimulants. The articles of this class recommended in this stage of the disease are the angelica, the imperatoria, valerian, levisticum, calamus aromaticus, and common camomile. These should be administered in the form of concentrated infusions. The object of the author is to substitute these articles indigenous to his country, for the exotic and expensive remedies usually employed, as contrayerva and serpentaria. A short extract will present a condensed view of the author's practice in a prodigious number of cases which he attended in Galicia in 1806, and at a later period in the French military hospitals at Vienna.

> "During the first days of the disease, I always administered an emetic, followed by a mild resolutive and slightly sudorific decoction of the roots of the triticum repens, and of the flowers of alder, with a small quantity of the sulphate of potash. About the seventh day, at the commencement of the nervous stage, that is, when the typhomania and debility augmented, and when the dryness of the tongue

and the skin became more considerable, and the abdomen began to swell, I resorted to the application of a blister to each calf of the leg, sprinkled over with a little powdered camphor, and ordered the patient to take, daily, about eight ounces of an infusion of the flowers and root of the angelica, in the proportion of two drachms of each, with a little laudanum, two table spoonsful of which were taken alternately every two hours, with a little powdered camphor. By this simple method, I brought almost every case of the ordinary and regular typhus to a salutary crisis, and happily surmounted even some of the anomalies, whether they were occasioned by negligence or by a bad and ill directed method of treatment."

Among the injurious and superfluous remedies in this stage of the disease are tonics, as cinchona, opium, calomel, and purgatives. Opium he particularly condemns, as augmenting the stupor, depressing the vital energy, preventing the efforts for a salutary crisis, prolonging the disease, and producing dangerous metastases or apoplectic death ; and in every instance preventing the advantageous effects of other remedies. Yet he admits, with a laudable spirit of candor, that there may occur indications rendering its use necessary.

Of calomel he says,

"I have employed this remedy in several instances, but never with any real advantage ; on the contrary, it appeared sometimes to be injurious. It has no specific virtue in this disease ; it generally produces salivation, or diarrhœa, or augments that which already exists, and thus greatly aggravates the symptoms of the nervous stage : in the inflammatory stage, it is probably not so injurious as in the one to which we have just alluded. Besides, it acts unfavorably upon the state of the fluids, and the danger resulting from a salivation thus produced, is extremely great."

In the treatment of the irregular typhus the author does not attempt to lay down any general rules to be pursued in all cases. The method must be modified according to the exigencies of each individual anomaly. The principal indications are to be deduced, in all cases, from the most careful consideration of the predominant character of the disease, of the most dangerous symptoms, of the general affection of the system. Thus where the inflammatory character is preeminently strong, venesection is imperatively required. Regard should, however, still be had to the approaching nervous period, and the strength of the patient not be uselessly wasted. Hildenbrand condemns the use of nitre as acting injuriously on the fluids. When the nervous state, on the other hand, is most intense, a proportionate increase of the means already indicated must be made. The use of phosphorus is not highly spoken of.

The section which treats of the regimen and diet proper in typhus is fraught with practical usefulness and cannot be too carefully studied.

The treatise closes with some remarks on the circumcumstances under which the virus of typhus is formed, and on the means by which its development may be prevented.

We have now brought our *expose* of the contents of this valuable work to a close. We have refrained from introducing more comments into our analysis than we deemed absolutely necessary, as we felt desirous of placing before the American practitioner an unobstructed view of the doctrines entertained by the learned physicians on the continent of Europe in respect to typhus fever. Accustomed to receive the views of the English writers too exclusively, we have scarcely been able to do justice to the industry and learning of the continental physicians, or to arrive at impartial conclusions on disputed questions in medicine by a careful examination and comparison of all the facts and arguments that may be advanced on both sides. The doctrines of professor Hildenbrand are not likely to meet with much support; still it is desirable that they should be known and placed on record. In fulfilling this task, we think we have consulted the interests of our readers, and in concluding this article we must repeat the expression of our obligations to Dr. Gross for his very excellent and correct translation.

Art. III. *A practical Essay on Stricture of the Rectum; illustrated by Cases, showing the connexion of that disease with affections of the Urinary Organs and the Uterus, with Piles, and various constitutional Complaints.* By Frederick Salmon, Surgeon to the General Dispensary, Aldersgate street, &c. 8vo. pp. 188. London, 1828.

The disease of which this essay treats, may be considered as one of the most formidable afflictions to which humanity is liable. Insidious in its origin, slow and imperceptible in its progress, terrible and generally fatal in its consequences, it frequently attains an incurable height before its existence is even suspected. It is the object of Mr. Salmon to prove that it is a very common disease, inducing other important affections, and that surgery furnishes means adequate to its removal or alleviation. It is analogous in many particulars to stricture in the urethra, and the treatment of both should be as much as possible assimilated.

In the first chapter the anatomy and physiology of the rectum are treated of. In the second the causes and different kinds of stricture, and the morbid anatomy and situation of the disease, are described.

Among the causes noticed by former authors, the narrowness of the colon, at the sigmoid flexure, has been particularly dwelt upon by Mr. White, and is admitted by Mr. Salmon to depend frequently upon a constitutional predisposition, or congenital malformation. In no other way can the occurrence of stricture of the rectum in children of very tender years be explained. Hence it is, too, that several members of the same family, old and young, will be alike affected with this disease.

Any cause, however, which produces irritation in the rectum, and continues to act for a length of time, may give rise to stricture. Habitual costiveness is the most common and frequent agent in its production. The administration of large doses of drastic cathartics is another frequent cause. Indigestion, giving rise to the passage of acid matters along the gut, may also produce the same effect. Mr. Salmon doubts whether syphilis directly induces stricture; but having observed instances in females of profligate habits, in whom a mechanical impediment to the passage of the fœces was produced by the growth of little bundles of hard excrescences situated near to the orifice of the rectum, he believes that the irritation long kept up by their peculiar mode of life must have been the cause.

A peculiar constriction of the anus is another cause, and is generally connected with the existence of a stricture higher up in the rectum.

In females an enlarged and painful condition of the womb will induce the disease, and to a most distressing degree. No relief can be administered—ulceration frequently ensues, causing a fistulous communication between the vagina and rectum.

Cancer is to be regarded as the worst, the most painful, and irretrievably fatal cause.

Enlargement of the prostrate gland, piles, tumors, and excrescences, fistulæ in ano, will also occasion stricture.

Stricture of the rectum is, at the commencement, simply spasmodic. This being kept up for any period, becomes permanent. The function and stricture of the intestine are changed, depositions taking place between its coats. In this alteration the mucous coat does not participate, although the thickening of the gut be very great. The deposition takes place in the cellular membrane between the muscular and mucous coats. The matter deposited will be found, in the worst cases, to be cartilaginous.

As respects the situation of the disease, it will be found, in the great majority of cases, to be between five and six inches from the anus, about the angle formed by the first portion of the rectum and where feculent matter is most apt to accumulate. Those surgeons, therefore, who pronounce a patient free from stricture after an examination by the finger simply, will commit frequent errors. The next frequent situation of the stricture is at the junction of the sigmoid flexure with the rectum. Carcinoma, on the other hand, occurs near the orifice.

Symptoms of Stricture. Trifling irregularity of the bowels; deficient motions, passed in small pellets, flattened like tape, or having the appearance of worms; a sense of soreness at the verge of the anus, with fissures and cracks that are very distressing; occasional pains in the loins, extending to the groins, particularly the left, to the hips and thighs, and resembling cramp, are among the first symptoms announcing the existence of this affection. Decided costiveness supervenes sooner or later, and cathartics give temporary relief. This may last for years—until finally difficulty occurs in passing the contents of the bowels; a sensation is experienced, after each stool, as if the rectum was not fully emptied; a disposition with inability to accomplish a larger evacuation is felt, causing straining efforts which again produce prolapsus. These symptoms increase, and at last many days will pass without relief, though the patient is annoyed by incessant but useless calls to the chair. Severe paroxysms of colic are apt to occur at intervals in the progress of the disease, attended with rumbling noises from the collection of air in the colon. There will also be constant heat and itching at the anus. Accumulations will sometimes take place in the colon, distending it to an enormous size; the whole alimentary canal becomes affected, and finally a fatal enteritis or peritonitis discloses, on a post mortem examination, the hidden cause of suffering. The urinary organs are very liable to be affected. The pressure on the aorta by the distended bowels causes cold feet, and cramp in the legs, and also compression on the vessels of the head, inducing headaches, and, not unfrequently, apoplexy.

Treatment. Mr. Salmon divides this into the constitutional and the surgical. The first includes attention to diet and management of the bowels; the second, the introduction of instruments.

The primary object under the first head is to correct local disturbance. This is best done by the application of leeches to the verge of the anus, cupping the perineum, nates, and loins. Great caution must be observed in the application of leeches, as it is difficult in many cases to stem the hemorrhage from the bites. The author was compelled to use actual cantery on more than one occasion. It is indispensable, however, that attention be paid to the functions of the stomach and bowels. Unless these important viscera are restored to a due and daily performance of their healthy action, no instrument can secure a recovery. Care must be taken, therefore, lest the stomach be overloaded with food, or the bowels be overirritated by an indiscriminate and excessive use of purgatives. The following practical observations on the ill effects resulting from excessive purgation are deserving of notice:

> "I have been an eyewitness of their occurrence, and common sense should convince us such effects are likely to be produced. About four years since, I attended a gentleman, whose wife died from the effect of violent purgative medicines. She had had for many years an affection of the uterus, which was believed to be carcinomatous, and she was of an extremely confined habit of body, always requiring the assistance of powerful doses of medicine to produce the slightest evacuation. After having had her bowels constipated several days, she was seized with inflammation of the peritoneum, to relieve which, in conjunction with the usual remedies, large quantities of calomel, mixed with drastic purgatives, were administered for the space of two days and nights, without any other effect than that of producing the greatest inclination and straining to pass motion; in one of these attempts she suddenly exclaimed, "Oh! something has given way in my left side." Cold clammy perspirations immediately succeeded, attended with faintness, which was speedily followed by delirium and death. Examination discovered that a cherrystone had lodged at the sigmoid flexure of the colon, where the passage was nearly obliterated by stricture, immediately above which the gut had given way, its contents escaping into the cavity of the abdomen; here, the existence of stricture had never been thought of by her medical friends, though probably it had been the exciting cause of the affection of the uterus."

The exhibition of mild aperients, as castor oil or electuary of senna, seldom fails of producing the happiest effects.*

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* Mr. Salmon recommends the following prescription:

Recipe. Confectionis Sennæ, unc. unam.
Sulphuris Præcipitati, drachm. tres.
Olei Juniperis gtt. vi.
A tea spoonful for a dose at night.

No means are, however, more to be relied on for inducing a regular state of the bowels, than the daily use of injections, throwing into the rectum, by means of the common elastic bottle and pipe, every morning or evening, three parts of a pint of thin water gruel, lukewarm, with the addition of a dessert spoonful of castor oil. Mr. Salmon makes some judicious remarks on the fastidious delicacy which too often prevents the use of *lavemens*, among the English. We regret to say, that, in this country, the same obstacle exists to the adoption of one of the most effectual methods of removing habitual costiveness. We are free to confess, at the same time, that indecision on the part of the physician, if not a fondness to prescribe some remedy apparently more effective, too often proves a more serious hindrance to the employment of this mild, but almost sure remedy in habitual and prolonged costiveness, as well as other diseases.

The extent to which some individuals will allow their bowels to remain inactive, is truly astonishing. We know a gentleman who avers he would feel uncomfortable if he had a motion oftener than once in seven days; and we once prescribed for a patient who assured us that she was not accustomed to have a fecal evacuation oftener than once in fifteen days. Mr. Salmon relates similar cases, and enjoins it as an especial duty upon every practitioner to acquire correct information on the state of their patient's bowels, which can only be done by an inspection of the motions, and which is too often omitted through a mistaken notion of propriety. Where the bowels continue inactive after the use of oily aperient medicines for weeks, the author recommends the following draught:

℞ Pulv: Rhæi gr: xii.
Potass. Sulph. ʒss. Misce, tere bene.
Adde Tincturæ Sennæ, ʒiii.
Infusi: Sennæ, ℥vj.
Aq. Menth: Virid: ʒiv.
Misce. Fiat haustus hora somni sumendus.

On the subject of diet, that food is recommended which is most nutritive and easy of digestion; such as cocoa, chocolate, or milk, if it agree, for breakfast; beef, mutton, and all brown meat for dinner. Fish, soups, made dishes, pastry, undressed fruits, vegetables, and fermented liquors are to be avoided. The less fluid taken with a meal the better. The practice of taking any fluid into the stomach at a temperature imparting a sensation of heat, is particularly condemned.

Examination of the Rectum. The constitutional treatment hitherto recommended is only palliative. The scientific use of the bougie is the only curative means on which we can rely. The author's directions are:

"One or two hours previous to the examination of the rectum, an injection is to be administered of tepid poppy water, containing forty or fifty drops of laudanum, which will tranquillize the bowel, and remove any lodgment of fæces. The patient should also be requested to make water immediately previous to the introduction of the instrument. The rectum is first to be examined with the finger, to ascertain that there is no kind of obstruction near the orifice.

"The patient, if a male, leaning over the back of a chair, or the side of a bed,* should draw aside the nates fairly to expose the orifice of the bowel. A full sized bougie, not less than eleven inches in length, thoroughly softened, and well oiled, adapted to the shape of the passage through which it is to be passed, is to be introduced, with the convexity of the first curve towards the sacrum, in which way it is to be passed upwards and backwards about two inches,† through the third portion of the bowel, provided it gives no pain, for the introduction will commonly produce an uneasy sensation; we continue to propel the bougie in the same direction, about three or three and a half inches higher, or through the second portion of the rectum; the point of the instrument will now bear directly upon the hollow of the sacrum, and the butt end towards the left side of the body. With a view, therefore, of avoiding the sacrum, and of accommodating the instrument to the great curve of the rectum, we change its position, by describing the segment of a circle from left to right, with the butt end, turning it upwards, at the same time continuing to propel the instrument. Having described this segment, we shall have carried the bougie full four inches farther, or to what may be considered the extent of the rectum. But it is yet to be introduced into the sigmoid flexure; we therefore triflingly depress the butt of the instrument, at the same time propelling it upwards, till the whole is fairly within the sphincter—this accomplished, we may be satisfied.

"Having passed the instrument between five and six inches, the patient generally complains of pain not only in the rectum, but over the surface of the abdomen, particularly in the umbilical region.

"Upon encountering obstruction, trifling pressure is to be maintained for a minute or two, and if under this careful pressure the pain increase, and the instrument remain stationary, it is to be withdrawn, the next size introduced, and so on from above downwards, till we ascertain the size which passes with trifling pain or difficulty fairly into the sigmoid flexure. Should we doubt whether the bougie has entered this part, the doubt will be removed by relinquishing the pressure from the end of the instrument, when, if the bougie has not entered the sigmoid flexure, it will slowly recoil; we are occasionally apprised of its having entered this part by the passage of air from the bowel.

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* In females, the examination being made beneath the bed clothes, is conducted without the slightest exposure.

† The last curve of the rectum is so trifling, that it matters not whether we introduce the convex or concave part of the instrument towards the sacrum, but by passing it with the convexity backwards, we avoid the necessity of altering the position of the bougie in passing it through the second curve of the bowel.

"The bougie is to remain in the bowel ten or fifteen minutes, provided it produces no considerable irritation, care being taken to affix a tape through the loop to prevent the instrument being drawn up into the rectum; at the expiration of that time it is to be removed, and allowed to harden in the shape in which the intestine has moulded it: this will be of considerable service in the subsequent treatment of the case, acting as a guide by which we adapt the several instruments throughout the curative process. In withdrawing the bougie, we should bear in mind the anatomy of the rectum, being cautious not to strike the point of the instrument against the angles of the intestine.

"Very commonly the two or three first introductions of the instrument cause a distressing desire to relieve the bowels; this desire will, however, gradually subside."

The operation is to be repeated every three or four days, the size of the bougie being increased. It is observed that when the size originally did not exceed number four, we are enabled to use a large instrument on the second, third, and fourth introductions; but if the size at first reaches number seven, we cannot increase it oftener than at every other introduction, and so on with a proportionate enlargement of size.

In the rules which he lays down for the introduction of the bougie, Mr. Salmon differs from Mr. White and other authors. He directs that the instrument be passed less often and continued in the gut a shorter time than formerly recommended. The patients experience less irritation, and he is enabled to increase the size of the bougie more rapidly, than when it is passed daily.

Mr. Salmon likewise differs from Mr. White on the quality of the bougie proper to be used. The largest sized bougie he uses measures in circumference three inches and a half, the smallest one inch; the medium between the two is subdivided into ten sizes. The length of the bougie is eleven inches. The instrument he uses is composed of fine linen cloth, very heavily coated with wax, and a certain portion of diachylon plaster, mixed with a small quantity of lamp black. Immersion in warm water, a few minutes before being used, renders it soft and pliable to any extent, retaining a regular and smooth surface. Tape should be attached to the loop at the end. When the stricture is accompanied with extraordinary pain, benefit will be derived from smearing the bougie over with an ointment composed of one ounce of elder flower ointment, mixed with a scruple of very finely powdered opium.

During the use of the bougie, cramps in the thighs and legs, numbness, shivering fits, and nausea, are apt to arise. Fainting seldom occurs. Jellylike and offensive motions are also apt to follow each introduction of the instrument. The powerful action and irritation of the sphincter muscle is the most troublesome symptom to be enconntered. Care being taken to pass the bougie completely through both the external and internal sphincters, this will generally be prevented. A disposition to take cold is another inconvenience often experienced.

The use of the bougie, after it has accomplished the object for which it is introduced, which it will do in most cases in two months, is to be gradually discontinued. In some cases it must be continued through life.

Division of the Stricture. The instances are few in which this operation can be attempted with utility and safety. Where the stricture is sufficiently near to the orifice to admit of an examination being made with the finger, it may be performed. The number of such cases is very small, and in no other cases is it advisable. When the operation is determined on, the following is the method of conducting and treating it:

> "The fore finger of the left hand being introduced into the rectum, to ascertain the most prominent parts of the stricture, and that no vessels of magnitude prevent its safe division, a broad probe-pointed bistoury, its side resting upon the finger, is to be passed fairly beyond the obstruction; the edge should then be everted, and the stricture divided, in one or more parts, as may be necessary.* It will generally be requisite to divide the intestine in several bearings, and we should not be satisfied till we are able to introduce a full sized bougie.
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> "Hæmorrhage having ceased, the rectum is to be cleansed out by an injection of tepid poppy water; and a portion of bougie, well oiled, and covered with lint, or a plug, entirely composed of the latter material, introduced, of sufficient size to distend the bowel: it

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* Sir Astley Cooper's knife for hernia is the best instrument to use for this purpose.

is not necessary to pass this farther than through the part which has been divided. If practicable, it should remain in the rectum undisturbed twenty-four hours, by which period discharge will generally have commenced ; after which, we may be satisfied that no union, by adhesive inflammation, will take place. It is then to be removed, and, the bowel having been emptied by an injection, to be replaced by another plug, smeared over with spermaceti ointment. This plan is to be adopted till the intestine is completely healed, which will be evinced by the absense of all discharge upon the surface of the dressing.

"During the healing process, the patient should be supported upon the smallest possible quantity of food of the most nutritious quality; and, after the first two days, such a portion of castor oil administered, as may relax the bowels.

"When the part is perfectly healed, it will be proper to introduce a full sized bougie every third or fourth day, suffering it to remain in the bowel till the patient is desirous, from the irritation it excites, to have it removed."

Carcinoma of the Rectum.—This affection is generally within the reach of the finger, and possesses certain peculiarities evincing its malignant character. "The surface of the rectum feels indurated and irregularly thickened, the mucous coat being closely puckered up into wrinkles, the edges of which have a bony hardness." These ulcerate, and the inner coat is absorbed by the pressure of a new growth of substance. To the symptoms already ennumerated of stricture, there are added acute lancinating pains, which extend into the lower part of the back and thighs, an occasional gush of blood from the bowel, distressing pain on passing the least quantity of feculent matter, and, in the latter stages of the disease, a peculiarly offensive discharge, similar in smell to that which accompanies cancer of the womb; the general health suffers, and death ensues.

It is a most uncommon affection. The treatment can only be palliative; to assuage the severe pangs of the sufferer, and soothe his passage to the grave. A pill of opium introduced per anum, leeches to the anus, and anodyne injection, will be found to be the best means.

Effects of Stricture. Among the evils attendant on contraction of the rectum, is the participation of the neighboring organs, as the kidneys, bladder, &c. Cases are related in which the most extensive disease in these organs took place, and sometimes to so great an extent as to obscure the existence of the original affection. It is particularly apt to be connected with stricture of the urethra, and its particular symptoms will always indicate its existence. Among the cases minutely detailed, there is a fatal one, which, after great suffering in life, presented the following appearances after death :

> "Upon opening the abdomen, the cause of this obscure case became manifest ; commencing from the vesiculæ seminales, and thence extending upwards, occupying a very considerable portion of the pelvis, and pointing above the pubes, there was a tumor, having an elastic feel, which adhered firmly to the bladder and rectum, of course creating considerable pressure upon both those organs. The cavity of the rectum was materially diminished through the whole of its first and second curvatures. Upon removing the tumor, it was found to be a very firm cyst, containing hydatids. The mucous coat of the bladder was in a state of ulceration, and the kidneys were thoroughly diseased ; the ureters were enlarged to a very extraordinary extent, being of a size somewhat greater than a large turkey's quill. All the other viscera were in a perfectly healthy condition."

Enlargement of the Colon. Among the unpleasant consequences of stricture in the rectum or at the sigmoid flexure, the extensive enlargement of the colon deserves particular notice. The existence of this affection is frequently not suspected during life. Collections will however occur in the colon distending it to an enormous size, and if they remain for some time, they must necessarily impair the contractile power of the intestine, and induce a permanent difficulty of voiding its contents. Mr. Salmon recommends the wearing of a broad belt round the abdomen in these instances, applied tight enough to give support without occasioning undue pressure. These collections and the consequent distension will often be mistaken for disease of the parts in which they occur, or of the neighboring viscera, and so will the accumulation of food in the stomach, causing pain in the transverse arch of the colon. Disease of the liver is frequently suspected from the same cause, and contiuued pressure on the diaphragm similarly induced may also lead to the apprehension of thoracic disease.

Two highly interesting cases are related in illustration of these remarks, of one of which we shall offer a brief summary.

A gentleman, aged forty-one years, complained of pains in every part of his body, especially in his loins, knees, and ankles ; his throat was ulcerated, and his digestion impaired so much that the smallest quantity of food caused pain in the stomach. For supposed syphilis he had undergone two courses of mercury. At the period of his application to Mr.

Salmon he was taking four grains of calomel daily, and was much debilitated. He was ordered to discontinue the mercury, and to take stomachic aperients with generous diet. He improved under this treatment until the ensuing spring, when he complained much of great irregularity in his alvine evacuations, and of hemorrhage from the rectum. He had pain in his stomach after eating, his urine was scanty and high colored, he had night sweats with cough—pulse was regular. He had been a free liver, and even now indulged in wine. He was soon after affected with pain in the epigastric region extending down to the left side into the groin, cough, and difficulty of breathing; the pulse was full and frequent and bowels costive. Leeches were applied to the side, a febrile mixture and gentle purgatives were administered, and milk diet was prescribed. He improved under this treatment, but having a swelling in his legs he was advised to go to Brighton—on his return from which he was much worse. He was much emaciated in the face and limbs, while his abdomen was considerably enlarged and tender. The slightest pressure on the epigastrium or in the groins caused acute pain. Going to stool also occasioned great pain, and he had frequent inclination thereto, as well as micturition, though the quantity of urine passed was very small in the twenty-four hours. Under an impression that his liver was diseased he took the squills and calomel pill, &c. A very short time after fluctuation was evident in the abdomen, he became anasarcous, and altogether worse. He was reduced so low that the most active stimulants were given him, under which he grew somewhat better. Diarrhœa and prolapsus ani supervened; he was examined by Mr. S. A stricture was found three inches distant from the anus. A full sized urethra bougie was passed through the obstruction, and thence seven inches up the bowel. Considerable feculent matter was present in the intestine. Injections were thrown up, which brought away great quantities of horribly offensive fæces, and bougies were regularly introduced. This treatment was repeated for a month, when the patient was much improved and able to go out. The size of the bougie introduced was increased from number two to four. He appeared to be doing well, but commencing anew his intemperate habits, all the old symptoms were renewed, and after suffering the most distressing vicissitudes he died in the greatest agony.

"*Post Mortem Examination.* Upon opening the abdomen, I discovered one of the most extrordinary specimens of disease I have ever witnessed; no vestige of the stomach, liver, or small intestines could be seen, but one immense tumor, having an irregular surface, in some points perfectly hard, in others of a softer consistence. Upon examination, this proved to be the colon, distended with hardened fæces; so immensely large was it, that the transverse arch of the bowel extended within a trifling distance of the pubis, and the ascending and descending portions nearly coalesced; from these several points coagulated lymph had been thrown out, which had become organized, connecting the different portions of the gut, which was, as it were, glued in one mass: at the superior part, the colon firmly adhered to the great arch of the stomach, thrusting this organ, together with the liver, under the ribs; it had also contracted firm adhesions to the liver and diaphragm; at the sigmoid flexure it was united in the same manner to the superior aperture of the pelvis, and its lateral portions to the abdominal parietes. After a laborious dissection, I succeeded in detaching it from its different adhesions, and emptied it of the fæces with which it was distended; this I could only do by cutting it through, above the sigmoid flexure and caput coli; at the former of which points, the bowel was so completely obstructed, that even water would not pass through it. The intestine, notwithstanding its distension, was very considerably thickened through its whole extent. This appeared principally to have resulted from deposition between the muscular and mucous coats. In the rectum there were two obstructions, one about four inches from the anus, and a second at about seven inches; and at the sigmoid flexure I could scarcely find any passage at all. The appearance of the obstruction at the sigmoid flexure was not the same as that in the rectum, the former being perfectly circular, whereas the latter was more like the elongation of the semilunar folds of the bowel, the general structure of which was materially thickened through the whole of the gut; the colon was likewise violently inflamed throughout the inner surface, there being here and there patches of ulceration; the small intestines were glued together in one mass, feeling like hard chords, and were diseased through their whole extent. The liver was harder than usual, yet could not be said to be diseased, though it was of a remarkably small size; the gall bladder was distended with healthy bile, and the stomach contained a considerable quantity of the same fluid. The spleen, pancreas, kidneys, and bladder were perfectly sound and healthy, as were the lungs and heart, nor was there any unusual quantity of fluid in the pericardium; the cavity of the abdomen contained about three quarts. I regret it is not in my power to give a more minute account of this extraordinary examination; but the difficulty I had in procuring any, the length of time it occupied, and the necessity of making my notes afterwards, prevented a more accurate commitment of my labor to paper.

Piles.—Mr. Salmon considers any circumstance, constitutional or mechanical, which preturnaturally excites or mechanically obstructs the circulation in the minute vessels of the mucous coat of the rectum, or causes an enlargement of the hemorrhoidal veins, a cause of this affection. Hence peculiar or violent purgatives, too great an indulgence in venery, sedentary habits, inactivity, and an enlarged and diseased condition of the liver, will induce it. Accumulation of indurated fæces, irritating the intestine, and the consequent disposition to strain at stool, also distend the hemorrhoidal vessels, and finally bring on a rupture, or, causing simple enlargement, form permanent tumors. From the same cause is produced the deposition of coagulable lymph on the inner coat of the intestine, and between its muscular and mucous coats, which lymph becoming organized, creates a huge mass of diseased structure, productive of intolerable pain. The most expeditious and satisfactory way of relieving the patient from the last affection is, to remove it with the knife. In the early stages of piles, we may generally remove them by attending to the cause; afterwards, when stricture of the rectum is superadded, this cannot be effected, unless the supervening difficulty be first removed.

The author promises, in a future work, to trace the connection of stricture of the rectum with fistula in ano, and disease of the lungs. To this last subject we shall look forward with much interest.

ART. VI. *Elements of Physics, or Natural Philosophy, General and Medical, explained independently of Technical Mathematics, and containing New Disquisitions and Practical Suggestions.* By NEIL ARNOTT, M. D., of the Royal College of Physicians. First American, from the third London edition; with additions by ISAAC HAYS, M. D., &c. Philadelphia. Carey, Lea, & Carey. 1829. 8vo. pp. 582.

THERE is no branch of natural or physical science that can be said to be entirely useless to a physician, or unconnected with the advancement of his professional attainments. Even if it do not enter into his necessary studies, the very nature of his profession obliges him to mingle with the educated and scientific, of whose pursuits he should be unwilling to acknowledge an entire ignorance. Physics or natural philosophy, however, we consider as a requisite study of the physician; for its laws do not alone affect the inorganic world, but materially govern the complex mechanism of man himself. While the whole being develops the unerring wisdom of its Creator, consistency with the general laws of physics marks its material construction and many of its living actions. Some acquaintance with these laws is therefore necessary for the purposes of a correct demonstration of many of the phenomena and principles of the human structure. A profound knowledge of mechanics could not be expected in every instance, or even a majority of instances, but a certain degree of information upon the subject must surely be considered of practical importance to the intelligent physician and skilful surgeon. The elements of physical science should ever be a required branch of that education which ought to accompany the practice of a liberal profession; not that every one thus educated is in consequence put in possession of those qualities which are so necessary to the physician, but that such an education joined to acute observation and ready discrimination not only renders him more capable of correctly judging, but makes him a more creditable member of a profession as ennobling as it is extended in its researches. It must, we think, be apparent to every one, and we scarcely need say it, that without some knowledge of physics, how unsatisfactory must be the study of anatomy and physiology, how imperfect must be the acquaintance of the structure and nature of the actions of that nice mechanism whose irregularities it is the business of the physician to repair.

To extend our views on the comparative importance of the sciences as connected with a liberal and useful education, would occupy too much of the space allotted us in our notice of the work before us; but we may remark, that the devotion of a portion of that time which is spent at academies and colleges upon the dead languages, might with more practical and real value be given to the study of natural and physical science and to some of the living languages of the continent. With this opinion we are led to subjoin the following clever observations of Dr. Arnott upon the same subject:

> "The reason for bestowing much attention on the Greek and Roman languages was good some centuries ago, because then no book of value existed which was not written in one of these languages; but now the case is completely reversed, for he who learns almost any matter of science from old books is learning error or, at the least, knowledge far short of modern erudition. As to the higher mathematics, again, while they merit great honor, as being the instrument by which many useful discoveries have been made, and the conjectures of powerful minds have been confirmed, still a very deep investigation of them is neither possible to the generality of men, nor, if it were so, would it be of any utility. The mode of

proceeding to which we have now alluded, is just as if a man, to whom permission were given to enter and possess a magnificent garden, on condition of his procuring a key to open the gate, and measures of all kinds to estimate the riches contained within, should waste his whole life on the road, in polishing one key, or in procuring several of different materials and workmanship, and in preparing a multiplicity of unnecessary measures. This and many similar errors, arise from men not being in general taught to carry in their minds a clear conception of the general field of human knowledge, and thence of the comparative importance of the different subdivisions—the possession of which conception is perhaps the most valuable single acquirement which the mind can make. He whose view is bounded by the limits of one or two small departments, will probably have very false ideas even of them, but he certainly will, of other parts, and of the whole ; so as to be constantly exposed commit to errors hurtful to himself or to others.

The work before us, it will have been perceived, is devoted to general and medical physics. It is with the latter only that we shall occupy the time of our readers. Passing then over the first and larger portion of the work, we come at once to the consideration of the *doctrines of fluidity in relation to animals.*

At the present day it would be preposterous to doubt the claim of Harvey to the discovery of the course of the circulation of the blood. Fabricius ab Aquapendente, with whom Harvey had studied, had previously discovered the valves of the veins, but so far from seizing on this discovery as a clue to any actual knowledge of the circulation of the blood, he was even ignorant of the use of these valves. His pupil from this and perhaps other results of the anatomical researches of his preceptor may have been led to the conception of the happy idea, the truth of which he afterwards as happily demonstrated. Important as this discovery was, and imperfect as in some respects he left it, it is only within comparatively a few years that the subject has excited much and peculiar interest and renewed investigations. It is within this time, as Dr. Arnott observes, that the importance of a minute knowledge of the subject has been justly appreciated, or been made available for the valuable purposes which it is capable of serving. It is not strange that where there were many difficulties to solve there should have arisen many erroneous conclusions and contradictory doctrines from the attempts which have been made to elucidate the subject. This has indeed been the case, but it has not been unconnected with advantages, for new and valuable truths have been thus accumulated. Haller's theory of the sanguiferous system, as it was most consonant with apparent facts, has also been the most generally adopted by physiologists. The heart as the centre of circulation, was considered by him as equal to the propulsion of the blood through the whole circle of its progressive journey through the animal frame. That the projectile power once given by the impulse of the heart is adequate to this end, is the opinion of intelligent men who have given their attention to the subject. Bichat, Parry, and others, with some shades of difference, have come to the same conclusion. Latterly there have been a series of experiments conducted by Dr. Barry, which, strengthening preconceived opinions, have led him to insist upon the almost independent agency of atmospheric pressure in the circulation of the blood.* But when, as will be seen by the following extract, we find that the projectile force of the heart is equal to a pressure of four and a half pounds to the inch, and when we consider at the same time the hydrostatical law regulating the level of fluids, we do not believe that there is any necessity of resorting to the pressure of the atmosphere as an extensive power in the propulsion of the blood.

"The contractions of the heart," says our author, "inject the blood into the arteries with a force maintaining such a tension in them, that, according to the interesting experiments of Dr. Hales, recorded in his *Statical Essays*, if any artery of a large animal like a horse be made to communicate with an upright tube, the blood will ascend in the tube to a height of about ten feet above the level of the heart, and will there continue, rising and falling a few inches with each pulsation of the heart. Now a column of *ten* feet, as explained at page 241, indicates a pressure of about *four and a half* pounds on a square inch of surface: this, therefore, is the force of the heart urging the blood along the arteries into the veins. The opposing tension of the veins is much less, because, as will be explained under the proper head, the blood readily escapes from them into the heart.

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* In the "Georgetown Metropolitan," of 23d November, 1824, will be found some observations on the circulation of the blood, in which the author, Dr. Robert Newman, of Romney, Virginia, promulgated the hypothesis which has since excited so much attention abroad. He comes to the conclusion, that the pressing power of the heart drives the blood to all the surfaces of the body and injects the venous capillaries, and that *the pressing power of the earth's atmosphere drives it back through the veins to the heart,* filling the right auricle from the body, and the left from the lungs. Hence the investing atmosphere and the contractile power of the heart constitute the circulating forces, &c.

Hales found that in a tube communicating with a vein, the blood stood only a few inches higher than the level of the heart. In small animals he ascertained the tension of artery and vein to be less than in large ones; and the ratios deduced for the human body, under ordinary circumstances, were eight feet column, or nearly four pounds per inch for the arteries; and half a foot column, or a quarter of a pound per inch for the veins."

The opinion has prevailed among some, that the arteries themselves materially assist in the circulation, by an expansive and contractile power which they are supposed to possess. Dr. Arnott, it would seem, differs in opinion from those physiologists who maintain this doctrine. There is something contradictory, we think, in the manner in which he expresses himself on this subject. If the arteries act solely as tubes which convey the blood, urged on by the propulsive force of the heart, we cannot conceive how the blood can be said to be much influenced in its speed and distribution by an enlarging and contracting of the caliber of the arteries; at least, if the first be correct, we do not see the necessity of the accessory influence of the arteries. The American editor has also remarked upon this contradiction in a subjoined note.

Upon this subject Dr. Arnott observes, that,

> "In any admissible view, however, of arterial action, we find that the arteries contribute to the motion of the blood, only as tubes which convey it; their tension, and, therefore, the force with which the blood is pressed into the capillaries, being derived from the heart alone. Many physiologists have had a confused belief that the arteries aided actively in propelling the blood; but a very little reflection would have shown, that, as they have no vermicular or progressive contraction, like the intestines, they can no more *propel* the fluid with them, than any other rigid or elastic tubes. Although they are thus in no degree instrumental in the propulsion of the blood, still more permanently enlarging or diminishing their caliber, that is, by merely becoming larger or smaller conduits, they may much influence its distribution, and the speed of its transmission.
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> "Dr. Monroe and John Hunter, two of the most able physiologists that the world has seen, believed that the arteries did almost as much in propelling the blood as the heart itself; and some teachers of the present day also speak of their *propulsive action.* We need not repeat the refutation of this opinion. The ingenious Bichat, unable to detect either momentary contraction or dilation in the arteries, thought that the blood was pushed along them by the heart, instantly through their whole extent, as a solid rod of metal or wood is advanced by an impulse at one end. Dr. Parry

took nearly the same view of the subject, and illustrated his idea by referring to the experiment of moving a whole line of billiard balls by striking the extreme one."

The question by what action the passage of the blood through the capillaries is effected, remains at present undecided, and continues to offer a sufficiently interesting subject for the investigation of the physiologist. Dr. Arnott remarks, that the *possible* action of these vessels, intermediate to the arterial and venous circulation, may be oscillatory or an alternate contraction of the fibres of the capillary tubes. Bichat was decisive in that opinion. We will give the hypothesis of the former.

"A muscular capillary tube, strong enough to shut itself against the arterial current from the heart, is also strong enough to propel the blood to the heart again through the veins, even if the resistance on that side were as great as the force on the other. For, if we suppose the first circular fibre of the tube to close itself completely, it would, of course, be exerting the same repellent force on both sides, or as regarded both the artery and vein. If, then, the series of ring fibres, forming the tube, were to contract in succession towards the vein, as the fibres of the intestinal canal contract in propelling the food, it is evident that all the blood in the capillary would thereby be pressed into the vein towards the heart. If, after this, the capillary relaxed on the side of the artery, so as to admit more blood, and again contracted towards the vein as before, it might produce a forward motion of the blood in the vein, independently of the heart."

The passage of the blood through the veins is the next subject of consideration. This gives Dr. Arnott an opportunity of combating the opinions of Drs. Barry and Carson. It is a fact that the blood is returned to the heart only during the act of inspiration. Hence has arisen the supposition of an internal vacuum, which, seconding the continued pressure of the atmosphere, effects the progression of the venous blood in its return to the heart. Independent of the many forcible objections which physically operate against this assumed fact, there is no deficiency of proof to show the capability of the heart to propel the blood through the utmost extent of the venous system. Dr. Parry, in making a similar remark, adds the following: "By observations on living warmblooded animals, it is found that, at the roots of the venæ cavæ, and pulmonary veins, there is a very strong muscular contractile power, during the exertion of which, or their systole, these portions of the veins are emptied, and the auricles filled. This state, however, implies a strong previous *vis a tergo;* otherwise as much of the blood would be repelled, as was driven forwards into the auricle." But we must follow our author in his arguments, many of which offer sound objections to the hypothesis of Dr. Barry. He observes:

> "The simple weight of the column of blood in any descending artery, is just sufficient to raise the blood through open capillaries to an equal height in the corresponding vein, according to the hydrostatical law, that fluids attain the same level in all communicating vessels; and therefore, as the arch of the aorta rises considerably above the heart, the pressure of the descending arterial column of blood would be sufficient to lift that in the veins not only up to the heart, but considerably beyond it. In addition to this influence of gravity on the venous current, the blood is pressed into the arteries, and from them therefore towards the veins, with a force from the heart itself, as stated above, of about four pounds to the square inch, or, in other words, as if there were a column of blood eight feet higher than the heart urging the current. It might be expected from the law of equal diffusion of pressure in fluids, that these causes would soon produce a tension in the veins as great as in the arteries. This does not happen, however, because the blood has a ready escape from the veins through the right ventricle of the heart. Under ordinary circumstances, there can be no greater tension in the veins, than just enough to lift the blood to the heart, and to overcome the friction; just as in an upright leathern tube, open at top, and receiving water from a powerful forcing pump through a small opening at its bottom, there never can be greater tension or pressure than what corresponds to the height of fluid column in the tube, and to the friction between the fluid and tube. In Dr. Hale's experiments, already alluded to, a tube connected with a vein so as to receive its blood, became filled with blood to a height of only about six inches above the level of the heart."

In proof of the free passage of the blood, as above described, and of the sufficiency of the force actually exerted to lift the blood at least to the level of the heart, he enumerates the following experiments and considerations. 1st. A separate ligature was applied by Magendie to a long vein, which, with the principal artery at its side, had been previously laid bare; when a tight bandage was placed round the living limb, without including the artery and vein, it was found that by a puncture made beyond the first ligature, the flow of the blood from the opening could be regulated in its rapidity, as a greater or less degree of tension was made, which was regulated by compressing the artery between the fingers. 2d. In parts similarly prepared, there is but little difference in the ascent of the blood from the vein and artery in a tube. 3d. *Per saltem* jetting of the blood, which often occurs from a punctured vein. 4th. Uniform force and motion of the blood in the capillaries, as if obeying a continued pressure from behind, as may be observed by a microscope. 5th. Obstructed passage of the blood through the heart, from its disturbed actions, attended by a tumefaction of all the veins leading to the heart, producing swelling and pain in the liver, &c. 6th. Dr. Young's experiments, which led him to the conclusion that perfectly open capillaries, of the size occurring in the living body, should just retard a flow of blood, urged by the usual arterial tension in the degree which really occurs: a correspondence proving that they must be open, &c. 7th. The action of the capillaries, by which the arteries are emptied and the veins filled, proves that under certain circumstances the venous tension may become even greater than the arterial. These facts, then, and others that might be mentioned, prove, incontestibly, that the blood is pressed into the veins from the arteries and capillaries, with force sufficient to lift it, not only to the heart again, but many feet farther, viz. about as far as it would ascend in a tube arising from the tense arteries themselves.

" Some recent authors, either not aware of the facts, which prove that the blood is every where pressed into the veins, with force much more than sufficient to raise it to the heart again; or being unable, from their little familiarity with physics, to draw exact conclusions from the facts, or to avoid errors in their own hypotheses, have promulgated the opinion that the progression of the blood in the veins is greatly owing to a partial vacuum or a suction power in the heart or chest; that is to say, to the atmospheric pressure remaining constant on the body generally, while it is occasionally lessened about the heart:—now the whole influence of this effect or ciumstance, as stated above, is merely a slight disturbance of the uniformity of the venous current near the chest. Such a doctrine could not be proposed or entertained for a moment by a person understanding the principle of a common household pump; and that it has been published and tolerated by certain professional men in the present time, will remain a proof to posterity of the deficiency, as regards fundamental science or natural philosophy, now existing in the ordinary medical education. Much ingenuity has been wasted upon it, particularly by Drs. Carson and Barry, the latter of whom, after making laborious experimental investigations on living animals, has even attempted to build upon it a superstructure of medical theory and practice! To say that the influence of the heart or chest is the power which draws the blood to the heart, from the general system, is exactly as if one asserted that the rising and falling of the tide at the mouth of a river is the power which collects the tributary streams in the interior country."

Farther to elucidate some points connected with the circulation, and in order to discuss the suction power of the heart, Dr. Arnott enters somewhat in detail. In the first place he states the two following propositions as proofs of the physical impossibility of a sucking action of the heart being a cause of the venous circulation. 1st. The veins are pliant tubes, free to collapse, and no pump can lift liquids through such. 2d. The *suction power* of the chest, in healthy respiration, is too weak to lift liquids even one inch through tubes of any kind.

"A practical illustration of the first proposition is afforded by putting the point of a syringe into a piece of gut, or eel skin, or vein filled with water, and then trying to pump up the water. The result will be, that the fluid close to the mouth of the syringe will enter it, and then the sides of the pliant tube will collapse as a valve against the syringe, making an end of the experiment. In exact proportion to the rigidity of the tube, will be the distance to which the influence of the syringe will extend in it: if, for instance, half an ounce of pressure on the square inch of its surface be required to make it collapse, then the pump will draw up one inch of water, and so for other proportions. If, during the action of the syringe, the tube were allowed to open at the bottom into a vessel of water, instead of the syringe then drawing any more water from the vessel into the tube, the original contents of the tube would straightway be discharged downwards into the vessel; the result being the same even if there were a thousand tributary streams pouring into the tube, unless they entered with force enough to rise up to the syringe.

"When nature intends a tube to resist any degree of suction, the tube is made rigid in proportion;—witness the windpipe and its branches, which are the only instances in the human body. And if tubes, prepared for sucking air only, and which are defended from external violence by surrounding parts, have received such rigidity, how much stronger would tubes for sucking blood have been?

"To illustrate the second proposition, respecting the trifling suction power really residing in the chest, we shall state that a person of ordinary strength, using the whole power of the chest, (but not of the mouth separately, which is a smaller and much more powerful pump than the chest,) cannot, through a rigid tube, suck water from more than about two feet below his lips, and therefore not half way so far as from the extremities of his body; while in the opposite action of blowing outwards, he finds nearly the same limit, as is seen by dipping the end of a tube two feet into water, and then trying to blow through it. But in ordinary breathing, instead of force corresponding to a liquid column of two feet, or a *fifteenth* of the atmospheric pressure, the increase and diminution of air density in the chest is measured by a column of less than one inch, or about a *five hundredth* of the atmospheric pressure. This fact is easily shown by breathing through the nose, while holding one end of a glass tube in the mouth and the other end immersed in water, and by then noting how much the water in the tube rises above the surrounding level during *inspiration*, and sinks below it during *expiration.* The mouth, during this experiment, may be considered as part of the general cavity of the chest, to and from which air is passing by the narrow openings of the nostrils. In tranquil breathing, with both nostrils open, the fluctuation in the tube is less than half an inch each way; with one nostril closed and the other a little compressed, it may amount to a whole inch; and with hurried or convulsive breathing, like that of an animal in terror or in pain, it may exceed twelve inches. Although the measures thus obtained from the mouth are somewhat too small for the changes in the chest itself, because the chest is more remote from the opening by which the external air enters, the difference is very trifling, as may be proved during such experiments by stopping the nostrils altogether, while the same respiratory efforts are continued; and as is also proved by the agreement of the results with strict calculation founded on the inertia and velocity of the air respired—a calculation similar to that required in adjusting the index to the machine mentioned at page 371, for measuring water currents. In common healthy breathing, then, while the mouth is open, the fluctuation of pressure in the chest would be measured by less than half an inch motion each way of the liquid column. Dr. Barry, not aware that this point could be so easily determined by the author's bloodless experiment described above, or even by a simple calculation, has sought the solution by numerous trials on living animals, into some part of whose chest he forced a tube. But even if farther experiments had been at all necessary, those of Dr. B. could not have decided the question; 1st, because the pain and agitation of the animals rendered the breathing violent or unnatural; and, 2d, because the experimental tube often or always became a syphon; and Dr. B. not adverting to this fact, has not recorded the difference of level in the liquid at the two ends. That the external level was for the most part higher than the internal, is proved by his having noticed almost solely the *inhaling* action of the chest, although the *exhaling* is often a more powerful effort.

"Calling an inch column of blood, then, the measure of the greatest sugescent and repellent powers of the chest during ordinary respiration, we see that the force which really sends the blood from below to the heart, may have to lift a column one inch shorter during *inspiration*, and one inch longer during *expiration;* and this is the full and true measure and nature of the influence of the respiration on the blood's return to the heart. To say, then, that the atmospheric pressure, modified by respiration, is the great power which moves the venous blood, is just as if we said, that a boy standing near the great fly wheel of a steam engine of a hundred horses power, and giving it his Lilliputian thrust, alternately backward and forward, were the prime mover of the machinery."

To the experiments just mentioned, it has been objected, that, from the interposition of the *velum pendulum palati*, an obstruction is offered, which materially prevents any accuracy in the results which the experiments of Dr. Arnott are designed to illustrate. The power influencing the circulation in its whole progress, we believe to be principally that which the heart is capable of exerting. It seems to be pretty generally concluded, that there is a tendency to a vacuum *external* to the heart and lungs, attributable to the disposition to collapse of the latter organs. If any farther propelling force than that which is given to the blood by the heart be necessary, we should be inclined to look to this circumstance for that accessory influence. Laennec considered this as an important assistant in the circulatory system of the blood, and passed some high compliments on Dr. Barry, for what he considered its satisfactory demonstration. We are not yet prepared to give a decided opinion on this part of the subject, considering the premises still as doubtful. We may remark, however, with Dr. Arnott, that this last influence is more considerable than the simple respiratory action, dwelt on by Dr. Barry, and that it operates during expiration nearly as much as during inspiration, varying in force with the degrees of expansion of the chest. It is weaker in the living than in the dead body, because the rigidity of the distended pulmonary arteries helps to support the weight of the living lungs.

It is one of the conclusions of Dr. Barry, that in the action of absorption from the surface, the progression of the absorbed matter towards the heart by the sanguiferous and lymphatic vessels is effected by atmospheric pressure, in all animals with thoracic cavities, and over which they have the power of alternate contraction and dilatation around the central points of the circulation. Consequent upon this is founded his theory of the action of cupping glasses in preventing the effects of poisoned wounds. Dr. A. objects to these certain difficulties which are given below. We will first remark, that from an appended note by the American editor it appears that the *modus operandi* of the application of these instruments in preventing the absorption of poisons has been shown by Dr. Pennock in one of our journals to be that of mechanical pressure.

Dr. Arnott observes,

> "If the fluids in animal vessels had no weight, it is true, that in absorption, an external atmospheric pressure of fifteen pounds per inch might force new matter into a receiving orifice, at the instant

during inspiration, when the opposing pressure in the chest, at the other ends of the vessels, were half an ounce per inch less—there would be no physical absurdity in supposing this, although there are physiological facts that disprove it—but when we reflect, that in all vessels under the level of the heart, the weight of the contained fluids causes an additional outward pressure of about half an ounce troy for every perpendicular inch of fluid column, making an excess of outward pressure at the toes, for instance, even at the most favorable time for absorption, of about two pounds per inch, we see that absorption must be a strong *action of life*, able to overcome a great excess of mechanical resistance, instead of a passive phenomenon obeying an excess of mechanical force. If a mere balance of pressures acted at the orifices, as Dr. B. supposes, the blood and other fluids would be constantly oozing out from all orifices below the heart, as blood really does from an artificial opening, with force that would fill a tube reaching as high as the heart. It would be good news for proprietors of mines and others having to raise water, if by taking off an ounce or two per inch of the atmospheric pressure at the top of a full pipe, the continuing pressure elsewhere would then force water in at openings below, and cause an upward current; but, in truth, to make the atmosphere efficient below, powerful steam engines or other means must be used to take off a pressure above, of at least half an ounce per square inch, for every inch in height which the water has to rise."

In the succeeding sections are noticed—the force of the heart—the velocity of the circulating blood—the pulse—circulation in the head, &c. After noticing the different existing opinions with respect to the pulse, he objects to parts of these severally, conceding to each at the same time a certain portion of truth. For ourselves, we are of opinion that the pulse is the perception of a shock given to a column of blood, to all intents incomprehensible. Hence we may consider this phenomenon as independent on any tumefaction, or contractility or locomotion of the arteries. We know that force applied to the extremity of any material body must transmit through that body a motion of its corpuscules; hence, reasoning philosophically, we should say, perhaps, that though the microscope discovers no evident wave in the arterial current, still there must be invisibly a disturbance of its globules. An artery is perfectly quiescent when disencumbered of any compressing or restraining power; it is, therefore, that for practical purposes, those places are chosen to discover the form and contractions of the heart, when this restraining power may be most effectually applied. The pressure of the fingers upon the temporal and radial arteries meet with the strongest resistance from the bones upon which they may be said immediately to lie. Possibly it may be asked, that if the arteries themselves be not concerned in the action of the pulse, how does it happen that this impulse of the heart is not felt in the veins? We can conceive that although the force of the heart be equal to the projection of the blood through the whole circle of its course, that still the peculiar impression may be lost by the passage of the blood through the capillaries. Another cause may be found, we think, in the difference of tone, resistance to compression or dilatability, between the arteries and veins themselves. The projectile force of the blood is certainly and materially lessened in the veins; this will have been perceived by the experiments made by Dr. Hale, already quoted from the work before us. With that diminished force in the venous current is lost any possible perception of the impressive propulsion given to the whole column of blood in its circuitous progress through the system.

The Chinese physicians have marked innumerable changes in the pulse, and with singular penetration acquire from these their whole knowledge of the state of their patient. Dr. Arnott classes them under five heads, as governed by the force and contractions of the heart.

> "1st. The number of the contractions of the heart in a given time, and the regularity of their recurrence. Pulse, *frequent*, *slow*, *intermittent*, *equal*, *regular*, *of varying force*.
>
> "2d. The degree of the heart's contraction, or the quantity of blood ejected at each time; and the corresponding state of the capillaries as to the quantity of blood passing through them. Pulse, *full*, *long*, *laboring*, *bounding*, *feeble*.
>
> "3d. The force of the heart's action, with the correspondent arterial tension or rigidity. Pulse, *hard*, *sharp*, *strong*, *wiry*, *weak*, *soft*, *yielding*.
>
> "4th. The suddenness of the individual contractions of the heart, and the rigidity of the vessels in conveying the shock. Pulse, *quick*, *tardy*.
>
> "5th. The size of the artery for the time, whether larger or smaller than usual. Pulse, *full*, *large*, *strong*, *small*, *weak*."

Passing over the considerations of respiration and voice, as well as the subject of digestion, we come next to some remarks on the *pelvic apparatus*. With some extracts from this part of the work we shall bring our analysis to a conclusion. The secretion of the kidneys gives the author an opportunity to introduce some remarks on stricture of the urethra, and the enumeration of certain improved instruments for their relief. After remarking upon the means which, until lately, were employed for the cure of this disagreeable and often dangerous disease, in which patients were painfully operated on by "wedges, called bougies," or had false passages eaten—the parts anterior to the stricture injured—or dangerous hemorrhages produced by the clumsy mode of applying caustic to the parts, he states the object aimed at by the new means to be to ascertain the exact condition of the diseased canal, to facilitate the passage of instruments in cases of difficulty, and to effect a permanent cure. They are thus enumerated:

"1st. *An examining sound*—being a bougie with the point formed of a softer tenacious material, in which fibres of cotton or silk are mixed to prevent any portion from being broken off or detached during use. This sound pressed against the obstruction, takes a correct impression of its anterior face, and shows the magnitude and exact position of the still remaining opening.

"2d. *An expanding or dilator sound*, which is a small tube with a a dilatable button at its extremity. The button consists of a little bag, which is passed through the stricture empty, and is filled with fluid after it has passed. It readily discovers any other strictures beyond the first, and the state of each.

"3d. *A conducting canula* or tube, open at both ends. It is passed down to the stricture, for the purpose of supporting and directing small bougies seeking entrance through very narrow strictures, or of guarding the caustic bougie in its approach to the place of its action.

"4th. In cases where the attempt to open the passage has failed by all common means, a conducting tube is first introduced, and through it six or more small bougies are passed side by side, so as to probe the whole face of the stricture at the same time. It is is thus scarcely possible that the opening should not be found.

"5th. Were even this means to fail, the conducting tube may be filled with water, under any degree of pressure, which water will either open the passage for the small bougies, or will itself act as the sharpest and most insinuating of all instruments. The stricture, by whichever means opened, will then allow the urine to escape. As patients might fear that water forced towards a bladder already too full would only increase the evil, J. Arnott waited for more numerous proofs of the utility and safety of the practice, before strongly recommending it. Dr. Amussat of Paris has lately published a statement of numerous cases of retention thus relieved.

"6th. *A dilator* for widening the stricture, after a small instrument can be passed through it. It is intended as a substitute for the *bougies* and *sounds* of former times. The chief objections to these last are, the painful friction, the danger of making false passages, the tediousness and imperfection of the cure, and that they cannot dilate any part of the canal beyond the size of its orifice, through which they have to pass, and which during health is the narrowest part of it.

"7th. Another improved means for the treatment of stricture, described in the *treatise*, is a mode of applying caustic for its entire destruction, but so as not to touch any other part of the canal. Formerly the caustic was applied *to the face* of the stricture, and therefore had almost always to destroy a portion of the healthy canal before it could reach the narrowest fibres; the extent of such portion depending on the distance from these fibres of the part where the lining of the canal began to be drawn inwards by them. This explains why not unfrequently a hundred applications of caustic were made in a single case, and why during such treatment false passages were often bored, and other mischiefs produced. Now by applying the caustic *within* the stricture at once, a single application generally suffices. To accomplish this, a ring of caustic is placed (as described in the *treatise* and in the *cases*) on a bougie of peculiar construction, about an inch from its extremity; and the bougie being then passed down to the stricture through a tube or conductor, the point passes beyond the stricture, and guides the caustic to the very spot where it is desired to act."

Having finished our analysis of Dr. Arnott's volume, we shall remark that it is, in our opinion, just such a work as will prove valuable to the student, or those admitted members of the profession who have not in this respect enjoyed a practically useful education. Written in a plain, unassuming style, with evident and well chosen exemplifications of the laws of which it treats, it must prove an acquisition to him who is desirous of acquiring a true knowledge of phenomena which are daily coming under his observation. On the mere and mercenary routinist all arguments in favor of scientific acquirements will be lost. But to him who is stimulated by the renown of those fathers of medicine whose labors have earned for them undying fame—he whose ambition would urge him to emulate their devotion to unwearied research—and who would rival them in the gratitude which generations have experienced towards, and will continue to express for them, we need only say that the field is open, and that an extended general information is the only path by which his noble aim may be attained; for with the accummulated knowledge and vast improvements which later years have placed in his possession, more is demanded to entitle him to an enviable rank among the erudite in his profession than could have been expected in less enlightened ages. The "march of intellect" has become a trite expression, but much meaning will be found in the term when we consider the extended strides which science has made in every department of a useful and truly liberal professional education. Chemistry may be considered a new and almost an exact science; botany, fascinating with floral and verdant charms, has acquired a higher rank by the increasing neglect of the sexual system and the adoption of the more difficult but philosophical system of natural orders; and geology, mineralogy, and zoology, (interesting and useful objects of the attention of the physician,) present a new era of vast improvement—the result and demonstration of the mighty powers of mind. Physics is not behind the natural sciences in the practical adaptation of its laws and value in the study of medicine; and Dr. Arnott's volume will admirably serve as an elementary work for those who are anxious to improve themselves in the acquisition of a knowledge of the physical laws of nature. It should be found among the class books of every student. The American editor, Dr. Hays, has added several appendices and a few judicious notes, which, although not materially increasing the value of the work, still we should feel grateful for, if the circumstance has been the means of the republication of the "Elements of Physics" in this country. J. J. G.

ART. V. *Manual for the Use of the Stethoscope.—A short Treatise on the different methods of investigating the Diseases of the Chest. Translated from the French of M. Colin.* By W. N. RYLAND, M. D. From the third London edition, with plates, and an Explanatory Introduction by a Fellow of the Massachusetts Medical Society. Boston. Benjamin Perkins & Co. 1829. 12mo. pp. 133.

IN compliance with the suggestion of a highly respected correspondent, and to gratify the wishes of many of the subscribers to this Journal, we have undertaken a condensed analysis of the contents of this valuable little work, which recommends itself to the medical student, both by its correct and comprehensive survey of the important subjects of which it treats, and by its being avowedly compiled from the works of Corvisart, Avenbrugger, Landre Beauvais, Laennec, &c. The high estimation in which it is held in Great Britain may be inferred from the flattering circumstance of its having passed through three London editions; and the American editor is entitled to high consideration for his laudable efforts to circulate it in this country.

It would be difficult to assign a cause for the apathy with which the use and value of the stethoscope have been hitherto regarded in the United States. Indolence, an ignoble fear of innovation, prejudice, and incredulity have, here as elsewhere, arrayed themselves against it. But these are not characteristic traits of the American mind; and least of all others, has the profession of medicine been noted for its hostility to the progress of improvement, and the introduction and extension of useful discoveries. The most numerous, perplexing, and fatal diseases which infest a large portion of our country are precisely those, in discriminating which, mediate auscultation lends the most invaluable and undoubted assistance. How happens it then that so few physicians attempt even to become acquainted with its importance? An objection has been raised upon the difficulty of attaining a ready and accurate knowledge of its application to practice. But this objection is futile—the difficulty vanishes before the efforts and perseverance of scientific curiosity, and the prospect of the immense reward which must crown successful enterprise. Any one who attentively reads the interesting case of diseased stomach, related in the seventh article of this number, will experience gratification on witnessing the accurate diagnosis of the disease pronounced before death, and which no other available means of investigation could have imparted excepting the stethoscope, and will feel anxious to possess himself of so unfailing a test of pathological knowledge.

A neat and perspicuous introduction has been added to the work by the American editor, in which a view is taken of the origin of mediate auscultation, and of its utility in discerning and distinguishing diseases of the chest.

The actions which are performed in the thoracic cavity are, the entrance and exit of the air, the voice, and the motion of the blood in the heart and blood vessels. When we are once acquainted with the natural and healthy sounds communicated by these through the stethoscope, we can easily detect any deviation from them. These deviations are numerous, and are frequently mistaken for each other, when symptomatology alone is relied on as the guide of opinion. Thus certain forms of inflammation of the lungs present the same symptoms as hydrothorax, and Drs. Graves and Stokes, of Dublin, have severely commented on the frequent errors committed by practitioners in confounding these diseases, and necessarily in mismanaging their treatment. "Numerous cases," they observe, "have been sent into the medical wards of the Meath hospital, by practitioners who had named and treated them as cases of simple hydrothorax; but in no instance have we found this diagnosis correct, and more than once have we succeeded in saving the life of such a patient, by the bold use of the lancet, at a period of the disease when a reliance on antidropsical remedies would have been of no avail."* In consumption too, it is of the utmost importance to ascertain the peculiar form of the disease and decide on the appropriate palliative, if not radical treatment. The following case cited in the introduction is in point:

> "M. Laennec was consulted, in the case of a gentleman who was supposed to be dying from phthisis pulmonalis, and in a state so desperate that he was not expected by his medical attendant to survive more than two or three days. M. Laennec made his usual investigation, and persuaded himself that the case had been mistaken, and that the alarming symptoms did *not* arise from ulceration of the lungs, but from empyema or purulent collection within the pleura. He strongly recommended that the operation for this disease should be performed; and after a little hesitation and delay, his advice was adopted. A large quantity of pus was evacuated, and immediate relief was afforded. The amendment was rapid, and the progress of cure so favorable, that the gentleman recovered his health in less than three months."

In the pulmonary diseases of infants, in recognising which so much difficulty and anxiety are frequently experienced on account of their inability to communicate their sufferings, it must be self evident that auscultation will furnish an invaluable means of investigating their nature and seat.

Percussion was first practised by Avenbrugger in 1761, and introduced to general notice by Corvisart. This operation is well understood to consist in striking upon the walls of the thorax, and ascertaining the existence of a natural or unnatural condition of its contents by means of the sounds returned. The best mode of performing percussion is to place the ivory cup, annexed to the present most approved form of the stethoscope, flat upon the part, and to apply a light quick stroke of the fore and middle finger. The patient must at the same time be desired to draw in his breath, and retain it while you apply the stroke. The advantage of the cup is that you occasion less pain, and fix with more certainty the exact spot, which returns an unnatural sound.

The stethoscope, as used by Laennec, has been before described in this Journal. The American editor objects to it, as being too large and inconvenient for the pocket. He recommends a more portable one, which answers all the purposes of the former. It is little less than half as long, and instead of being cylindrical, is trumpet shaped, with a circular rim or ear piece, to be screwed upon the small end, when the instrument is used. It has also affixed to it a plate of ivory, which is the pleximeter of M. Piorri, and is employed to prevent the pain of the stroke in percussion. We have seen this improved stethoscope, and are induced to form a high opinion of its value from the representations of those of our friends who have made successful use of it. In order to acquire a correct knowledge of the use of the instrument, the ear must undergo slow tuition and first become familiar with the natural sounds returned from the chests of healthy individuals. We shall give the editor's rules for the employment of the stethoscope in his own words:

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* Dublin Hospital Reports, vol. 4th.

> "1. To procure stillness in the room in which the patient is placed, although, to long practised auscultators, this precaution is in part unnecessary. Laennec repeatedly asserted that his organ of hearing was so adjusted to distinguish minute difference of sound, that he could, at the same time, observe the movements of the heart, the noises produced during respiration by air, mucus, &c. in the lungs, and in the stomach and intestines; the noise of his own, and the patient's movements; and all this, while his students were moving and whispering round him.
>
> "2. The stethoscope is to be used *without* the stopper, in exploring the phenomena of respiration, and the different *rattles;* and *with it*, to examine the circulation, and the voice.
>
> "It is not necessary that the part to which the stethoscope is applied should be uncovered, but only that the covering be not too thick, be perfectly smooth, and not of a kind to produce a rustling noise, as silk or worsted will do.
>
> "4. The instrument must be applied perpendicularly, and so retained on the chest as to fit and press equally on every part, and at the same time the ear should be applied to the other extremity so as to exclude the external air, the hole of the cylinder being opposite the meatus auditorius.
>
> "5. In examining the respiration, the patient should be directed to respire a little more rapidly than natural, without creating a sound more audible than usual at a distance. In examining the voice, he may count aloud, slowly, in a natural tone of voice; and for exploring the different rattles, the patient should be directed to cough occasionally.
>
> "The observer should be careful not to place himself in a constrained position, and for this purpose it is often convenient to rest upon one knee."

Actions of the Chest. The movements of the chest offer many varieties in disease—they may be frequent or rare, quick or slow, regular or irregular, great or small, equal or unequal, easy or difficult, complete or incomplete; and lastly, respiration be entirely abdominal, or entirely thoracic. Respiration is considered to be frequent, when, in an adult, it is performed more than eighteen or twenty times in a minute; rare when less. This frequency is, however, natural to children, females, and sanguineous habits; in warm climates, and summer, and also after bodily or mental exercise. It occurs independently of pulmonary disease, in verminous complaints, in spasmodic, febrile, and inflammatory affections. Pain in the thorax, an impediment to the passage of the air through the bronchia, and alterations of the pulmonary structure, are the causes of this variety.

Respiration is said to be *great*, when an inspiration, either slow or quick, attended with a full expansion of the thorax, succeeds an entire perfect expiration. It is *small*, when the dilation is scarcely sensible. M. Landre Beauvais, however, calls that respiration great, in which much air is inspired, and vice versa.

Unequal respiration is a symptom of pleurisy, and acute pneumonica. In the former, inspiration is quick, and expiration, though short, appears long in proportion; in the latter, it is the expiration which presents the greater brevity.

Difficult respiration, or orthopnoæa, is common in asthma and emphysema of the lungs. M. Pascali recommends galvanism in these cases. It appears from his experiments, that this variety of the respiration depends rather on an alteration of the vital powers of the nervous system distributed to the thoracic muscles, than on any change in the lung itself.

In *abdominal* respiration, the belly rises in respiration, sinks in expiration, and the ribs execute no movement. It occurs when both sides of the lungs are unfitted for respiration, and is generally a forerunner of death. It is, however, natural in very old persons, owing to the ossification of the cartilages of the ribs.

Thoracic respiration, effected by the ribs, without the intervention of the diaphragm, occurs in cases of intense and extensive abdominal phlegmasiæ, in pregnancy, &c.

The cavity of the thorax, almost entirely filled by the lungs, and more or less distended by air, returns a sound, when struck in the healthy state, very similar to that of an empty barrel. The sound varies, according as the part is more or less covered with flesh and integuments, according to the fatness, leanness, or state of infiltration, according to the posture of the patient, and according to the manner in which percussion is practised. A clear sound is returned from a bony part, covered by skin only, or thin muscles, which do not absorb sound. The clavicles, the space lying two or three inches below them, all the surface of the sternum, and the parts nearest to the cartilages of the ribs, are the most favorable points for percussion. If we strike on the sides, the hollow of the axilla and three inches below it are to be selected. The neighborhood of the liver on the right, and of the stomach on the left, especially when this last is much distended by air, renders the parts below unfit to return proper sounds. On the back, the costal angles present the best surfaces for percussion. When we examine the anterior part of the chest, the patient should be seated with his arms carried backward; they should be raised above his head when the sides are examined, and crossed over his breast when we examine the back. These positions are best, because they stretch the muscles. In making percussion, we should close and bring together all the ends of the fingers, half bent, strike with an equal and moderate force, making the ends of the fingers fall perpendicularly on the place struck. A new method has been proposed by M. Piorri, by which percussion is to be made upon a circular piece of ivory, or wood, a line in thickness, and an inch and a half in diameter, which is kept in its place by a small handle. The advantages of this method are, that we procure a louder sound, so that the operation may be performed through the clothes—we employ a stronger force, and can select more accurately.

There are four alterations of sound in disease. It may be *dull*, *obscure*, *absent*, or *more clear than natural*. Engorgement of the lung, such as occurs in bronchitis, pneumonia, œdema, is the cause of the dull. When the lung has entirely lost its permeability, and become dense like the liver, or when it is compressed by some foreign production or fluid, then the sound is altogether wanting. The sound will be more clear than natural when the lung is distended with air.

The *natural phenomena*, presented by mediate auscultation, form three classes, viz. those furnished by the respiration, by the voice, and by the heart.

On applying the stethoscope to the chest of a healthy man, we hear, during respiration, a gentle but distinct murmur, which indicates the penetration of the air into the tissue of the lungs, and its expulsion therefrom. This murmur conveys the idea, too, of the air being received into many small cavities. It is most strong at those points of the chest where the lung is nearest to the skin. In the trachea larynx, and root of the lungs, this murmur *(Bruit respiratoire bronchique)* is compared to the blast of a bellows. The more frequent the respiration, the louder is the murmur; hence in children, women, and irritable men, it is sonorous.

When a man in health speaks, or sings, his voice resounds through the chest, and produces a tremor, which is moderate, but which becomes very forcible if a vast excavation exists.

The phenomena furnished by the heart comprehend the extent of its pulsations, the shock which they communicate, the noise which accompanies them, and their rythm. In a healthy man of moderate plumpness, the beating of the heart can only be felt in the space comprised between the fifth and seventh sternal ribs, on the left side, and under the inferior portion of the sternum. In very thin persons it may be felt more extensively; in those who are very fat, less so.

The shock communicated to the ear is inconsiderable in health. The noise caused by the alternate contraction of the different parts of the heart is double in health, and each pulsation of the heart corresponds to two successive sounds: one clear, abrupt sound, to the systole of the auricles; another flat, and prolonged, to the contraction of the ventricles.

By *rythm* is understood the order of the contractions of the different parts of the heart, their respective duration, succession, and general relation to each other.

"In a healthy man, whose heart is in a state favorable to the performance of all its functions, at the moment in which the artery strikes the finger, the ear applied upon the cylinder is gently raised by a movement of the heart, isochronous to that of the artery, and accompanied with rather a dull sound; it is the contraction of the ventricle. Immediately after, and without any interval, a shorter, louder sound announces the contraction of the auricle; no movement sensible to the ear accompanies this sound. An interval of repose succeeds to it. This interval, though short, is well marked. After it a new complete contraction of the heart is perceived.

"The respective duration of the contraction of the auricles and ventricles appears determined with sufficient precision as follows. Of the total period taken up by a complete contraction and repose of the heart, a third to a fourth is occupied by the systole of the auricles; rather less than a fourth by the absolute repose; the rest by the contraction of the ventricles. These relations exist, whatever be the swiftness or slowness, the frequency or rarity of the movements, when the organ is healthy and well proportioned."

Pathological Phenomena. The respiration may be stronger or more feeble than natural; it may be absent, or analogous to what has been described as the tracheal murmur. It may be pure or combined with rattle.

When the breathing is stronger than natural, it is termed by Laennec *puerile*, because it resembles the respiration of infants. This variety occurs in the healthy part of a lung, the action of which supplies the loss of another diseased portion. Hence it is common in inflammation of the substance of the lungs. It is also seen in asthma and hysteria.

The tracheal respiration occurs when there is excavation of considerable size, communicating freely with the bronchia, or, according to M. Colin, from the hardening of an hepatized lung.

By *rattle*, *rale*, or *rhoncus*, every kind of noise is meant, different from the murmur produced by the circulation of air through the bronchia and lungs in health. They are generally perceptible to a limited extent only, and the respiration is natural in other parts of the pulmonary tissue. They indicate the contraction of some of the bronchial tubes, or air vesicles, or their engorgement. There are four rattles: 1st, the *dry sonorous* rattle; 2d, the *hissing;* 3d, the *mucous;* 4th, the *crepitating*.

1st. The *sonorous* rattle. This is a grave and noisy sound, resembling the snoring of sleep, the sound produced by rubbing the string of a bass viol, or the cooing of a dove. It is owing to a contraction of the bronchial tube, by a swelling of the lining membrane.

2d. *The hissing* rattle resembles a prolonged hiss, is grave or acute, dull or sonorous, and depends on the presence of mucus, obstructing the bronchial ramifications, which the air traverses to reach the vesicle. During the presence of this rattle, we perceive the mucous sputa of an aborescent appearance, presenting the form of the tubes from which they have been propelled.

3d. The *mucous* rattle. This is produced by the air passing through sputa, accumulated in the bronchia, or trachea, or through soft tuberculous matter. In the highest degree, it is termed gurgling.

4th. The *crepitating* rattle resembles the noise of butter boiling, or salt crackling on a hot bassine plate, and seems to be owing to the exhalation of blood into the air cells. There is a species of this rattle termed subcrepitating, and present in œdema.

The phenomena furnished by the voice are *resonance*, *pectoriloquy, and hægophomy*. Resonance is a more than natural resounding of the voice, existing in a part in which it is not perceptible in health. Pectoriloquy is the articulation of the voice appearing to proceed from the point of the chest to which the instrument is applied, and reaching the observer's ear. It is perfect, imperfect, or doubtful. It is owing to the presence of excavations in the lung caused by the softening of the tubercles, communicating with the bronchia and wholly or nearly empty. There is considerable variety in this phenomenon, and it may be produced without the existence of an excavation, in circumstances calculated to augment the sonorousness of the voice in the bronchia.

> " Six patients were brought into the hospital " *Neckar*," at not very distant periods ; they were affected with pneumonia occupying the upper lobe of one of the lungs. All presented evident pectoriloquy at the upper part of the chest, from the change of the first to the second stage, and during the whole duration of the latter. Two died ; the first during the acute stage of the disease. On inspection, we found a single very small abscess, situated in the centre of the summit of the organ, and which seemed to me entirely filled with pus, and consequently without communication with the bronchia ; the rest of the lobe was hepatized and very dense. The second succumbed after some months of disease, in which he presented most of the symptoms of the third degree of pulmonary phthisis. He had been pectoriloquous in a high degree, and expectorated a large quantity of suspicious looking sputa. In him the summit of the lung was found hollowed out with a number of vast cavities, communicating freely with each other, and covered over by a thin pseudo membrane, firm enough to be divided into layers. (The disease had lasted three months.) The rest of the lobe was in a state of grey hepatization, and had acquired a remarkable density. No tubercles were found in any viscera, nor in the hardened portion. The other four patients, who were cured in a tolerably short period, ceased to be pectoriloquous before leaving the hospital, and, in proportion as the respiration returned, the lung recovering its permeability, the phenomena diminished in them. During the whole continuance of the disease, their sputa was simply mucous, or viscous and tenaceous, or pituitous, but never purulent or puriform.
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> " From these observations, does it not seem demonstrated, that, in cases of hepatization, or condensation of the pulmonary tissue, pectoriloquy may exist in a more or less perfect degree, if the part thus hardened be close to the trachea or in contact with it, or traversed by large bronchial tubes ?"

Hægophony is a strong resonance of the voice, more sharp and acute than that of the patient. It is generally circumscribed in its limits to the vertebral column, the inner border of the scapula, its inferior angle, and its outer edge. It indicates with certainty the presence of a small quantity of liquid in the cavity of the pleura, &c. When the liquid is too abundant or too small in quantity, hægophony ceases.

The phenomena furnished by the respiration and voice conjointly are, metallic respiration, resonance, and tinkling. The lesions which they indicate are a fistulous communication between the cavity of the pleura and bronchia, and the accummulation of a quantity of air in the sac formed by that membrane—effusion, liquid or gaseous; a large excavation with thin and compact walls. Metallic respiration and resonance exist in the first case; metallic tinkling will be joined to them in the last. The sounds are thus described:

> "If we make a patient, in whom this communication exists, breathe strongly, the air, in penetrating the pleural cavity, produces a murmur similar to that caused by blowing into a rather narrow mouthed metal vessel. If we make him speak, his voice bounds under the cylinder, and resounds as if he spoke in a cistern. This is the more striking, as the phenomenon is sometimes evident only at the end of the sentence, and seems to be an echo.
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> "Finally, if an effusion both gaseous and liquid exist, and we make the patient rise, to examine him, it sometimes happens that we hear a sound of short duration, similar to that of a drop of water falling into a decanter three fourths empty. It seems as if a drop remained sticking to the upper part of the cavity, and falling into the lower part, then occupied by the effused fluid, produced this noise by its fall into the mass of liquid."

Pathological Phenomena presented by the Heart. These consist in deviations from the natural ones already described. Thus the extent to which the pulsation may be heard is much increased; including the left side of the chest from the axilla to the region corresponding to the stomach, the right side the same space, the left posterior part of the chest, and rarely the right posterior part. This increase always denotes weakness in the heart, a small degree of thickness in its walls, and the passive dilatation of some part. It may, however, also depend on other causes, such as the narrowness of the chest, hepatized lungs, compression by effused fluid, the existence of excavations, pneumo-thorax, nervous agitation, fever, palpitation, hæmoptysis, and whatever increases the frequency of the pulse. The diminution of the extent to which the heart's pulsation is heard denotes a thickening of its parietes.

The sounds of the contractions of the heart are, in the unhealthy state, three—1st, the bellows blast; 2d, the rasping noise; and 3d, that which resembles the creaking of new leather. M. Laennec regards the first as indicating a simply spasmodic state of the blood vessels, or of some part only of the sanguiferous system. In evidence of this are adduced its analogy to the noise produced by a forced muscular contraction, the ease with which we produce it in a great number of arteries alternately by resting lightly on a point of the vessel contracting its caliber, and thus offering to the course of the blood an obstacle which does not completely retard its progress, its appearance before active hemorrhages in the vessels going to the part from which the flow is about taking place, and lastly its constant presence in cases of palpitation produced by anemia. In connexion with this subject, M. Colin has the following observations on the action of the arteries, in which it will be seen he differs essentially from Dr. Arnott and his reviewer in the last article.

> "I know that these ideas upon the bellows blast naturally lead to the admission of the power of contraction in arteries, and represent them as in a part independent of the heart. But do not other facts render this almost evident? Thus the very common want of proportion between the force of the heart's pulsations and of those of the arteries; the development of the circulating phenomena in a part of small extent, the rest of the system remaining in the most perfect calm; that unusual sensation of pulsation which attends some inflammations, whitlow, for example, a sensation which is not illusive, since the finger applied upon the diseased part feels the same sensation; the pulsations felt within the cranium of persons suffering from hemicrania; the nontransmission of all the pulsations of the heart to the arteries, in cases in which this organ, being hypertrophied, is agitated by tumultuous and very much accelerated movements; the existence of the bellows blast in the vessels which transmit the blood from the uterus to the placenta, as lately discovered by M. Kergaradec."

The noise of the rasp or file, of which the name gives an exact idea, is not intermittent like the last; but when once established, continues permanent. M. Laennec regards it as a sure token of contraction of the orifices of the heart, by ossifications, vegetations, or other causes.

The sound resembling the creaking of new leather, has occurred once only in the experience of M. Colin. It was in the case of a man who died by pericarditis. It lasted six days, and then went off as soon as the local symptoms announced effusion in the pericardium. It has been observed by others in the same affection.

There are a number of interesting observations on the rythm of the heart's pulses, for which we must refer to the work.

M. Colin comes to the conclusion, that there are only two phenomena furnished by the heart, viz. impulse and sound, which are certain signs of tension in this organ.

Mensuration. Another mode of investigating the diseases of the chest, consists in measuring the two sides of the chest, and comparing the two. It is evident, that when both sides are affected, the difference between them would lead to no certain result. It is useful in some diseases to assist the diagnosis, but cannot alone be relied on. Besides, the right side is generally more developed than the left, and a disposition to rickets in infancy also causes some alterations in the formation of the cavities. We copy the rules for applying mensuration.

"In proceeding to this mode of examination, the patient is to be seated or standing; the body straight, and the upper limbs raised over the head, or hanging along the sides, but always in the same relative position; for the state of contraction or of relaxation of the muscles varies their projection, and may simulate a deformity which does not exist.

"The half circumference of the chest is to be measured by placing one end of a cord* upon the spinous processes of the vertebræ, and carrying the other round to the centre of the sternum; then, without quitting this point, bringing the cord round the other side to the spinous processes again, in the same direction, and at the same height.

"It would perhaps be better to surround the whole chest with a cord, and then to fold this exactly in the middle; it would then give the measure of the extent that each side of the chest ought to have, with which we should proceed as above directed. This method of enquiry furnishes only two signs, dilatation and contraction.

"Enlargement is always attended with flattening *(redressement)* of the ribs, widening of the intercostal spaces, and more or less complete immobility of the enlarged part; I say of the part, for this morbid enlarging may be of a whole side, or only of a part of one. Every effusion into the cavity of the pleura, at all considerable, necessarily produces dilatation.

"The contraction is accompanied, also, with change in the direction of the ribs; they are more oblique, little, or not at all moveable; the intercostal spaces are narrower, sometimes almost effaced; like the dilatation, it is total or partial, but it occupies a whole side oftener than this. Persons who present this alteration have a peculiar carriage, well described by M. Laennec, by which it may be guessed at the first glance. The shoulder is depressed, the side of the chest shorter and flatter, the flank hollow, the pectoral muscles wasted, the head somewhat inclined towards the contracted side. In most, the vertebral column preserves its natural rectitude; in a few it bends. This contraction is always the consequence of an intense pleurisy, accompanied with an abundant effusion of a liquid which has been absorbed. I think I have observed, in some cases of phthisis, a flattening at the summit of the chest, beneath the clavicles, and that in those cases there was a very strong and close adhesion between the pulmonary and costal pleura, in the whole extent of space corresponding to the contraction."

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* A graduated measure, in a small case, such as is used in ladies' work-boxes, is much more convenient.—AM. ED.

Succussion. This method of investigation consists in shaking the trunk once or twice, abruptly and rapidly, to produce the fluctuation of any fluid that may be present in the chest. A slight agitation answers the purpose.

Diseases of the chest come next to be considered.

Pleurodynia. This has been often mistaken for disease of the pleura and lungs, and even the diagnostic means, thus far explained, do not, at first sight, enable us always to distinguish it from them. Thus there is immobility of the chest, percussion returns a dull sound, and the respiratory murmur is weak, all which symptoms belong to pneumonia and pleurisy. An attentive consideration of all the phenomena presented by the last, will alone enable us to form a diagnosis.

Pulmonary Catarrh, or Bronchitis. The respiration is frequent, quick, small, unequal, irregular; the resonance of the chest is natural. The stethoscope furnishes truly pathognomic signs. In the dry catarrh, there is weakness, or even absence of the respiratory murmur, but the place in which this deficiency is perceptible is constantly changing, so that it will be distinct now, where just before its presence could not be ascertained. This weakness is often accompanied by the dry or sibilant rattles; they are both variable and intermittent, except in very violent catarrhs. In the humid catarrh, the mucous rattle is added to the above characteristics.

Pulmonary Apoplexy, or Hæmoptysis. The attack of this affection is sudden—there is dyspnœa, the action of the chest is hurried, irregular, intermittent, and orthopnœa takes place. The respiratory murmur is altered; the crepitating rattle is present in more or less circumscribed points. The spaces between these furnish a perfect, or even puerile, murmur. After a certain time, the mucous rattle, in large bubbles, succeeds, indicating a copious effusion of blood into the air cells, and the expectoration soon confirms the diagnosis. This will, however, never be certain.

Œdema of the Lung. Respiration slow, laborious, and difficult—always complete, but attended, at times, with tightness. Respiratory murmur scarcely distinct, marked in the back and inferior parts of the lung by the subcrepitating rattle, slight, but constant.

Emphysema. Extreme dyspnœa, increasing by irregular paroxysms, irregular but extensive movements of the chest, habitually unequal, short, rapid, abrupt and high inspiration, gradual and incomplete expiration, convulsive in the paroxysm, characterise this affection.

The chest yields a more than naturally clear sound on percussion. The murmur of respiration is weak, or absent, whenever the emphysema exists; a slight, sibilant rattle, like the clicking of a small valve, or a sonorous, like the cooing of a dove, is heard in deep inspirations. The contrast of the great resonance with the diminished or absent murmur, is the diagnostic sign of this affection. When the disease is chronic, there is added to the other symptoms a dilatation of the side affected, and if both sides are affected, the cylindrical form of the chest projects behind and before.

Pneumonia. M. Colin distinguishes three periods in this disease, and is willing to admit a fourth, or that preceding the attack in which the respiration is puerile.

In the first stage, the respiration is high, small, accelerated, unequal, difficult, laborious, and becomes abdominal if both sides are affected. The sonorousness of the chest is often diminished, and even completely lost. The respiratory murmur is feeble, wherever the sonorousness is diminished, or covered by a crepitating rattle. If the disease terminates in resolution, these appearances gradually subside. If hepatization ensue, the alteration of the thoracic movements continues, the sound becomes completely dull, the crepitating rattle ceases, the respiratory murmur does not return. Respiration is wholly absent, or is only heard in the vicinity of the bronchia; and it is tracheal, cavernous, and often very loud; pectoriloquy is often added. Nature and art may sometimes restore the parts, but if suppuration is induced, the action of the thorax is smaller and smaller, feeble and difficult; general debility follows, the sound is dull, a large bubble mucous rattle is developed in isolated points, which soon degenerates to the gurgling, and pectoriloquy declares itself.

Pleurisy. In the commencement, before effusion has taken place, the thoracic movements are enfeebled or wanting on the affected side. Respiration is frequent; percussion is painful, but yields the same sound as in health; the respiratory murmur is feeble but pure. After effusion has taken place, if it is small, resonance becomes obscure, and hægophony is present; if it is abundant, the sound becomes wholly flat and hægophony disappears; the intercostal spaces widen, and rise to the level of the ribs, which are flattened; the affected side enlarges, is unfit for respiration, and is remarkably immobile. If the liquid is absorbed, hægophony reappears, diminishes again in proportion as the water becomes less, and finally disappears.

Pulmonary Phthisis. This severe disease is divided into three stages. In the first there is an inconsiderable number of tubercles developed in the lungs, and the phenomena presented on examination are pretty much the same as those of a catarrh. In the second stage, when the tubercles are in sufficient number to stifle the tissue, still the phenomena are insufficient to establish the certainty of the disease, but sufficient to make us suspect it. In the third, the softening and evacuation of the tubercles develop phenomena which leave no doubt of its existence.

The sound returned in the second stage is flat and obscure on the upper part of one side of the chest; the respiratory murmur is feeble or absent; the voice is loud. Pectoriloquy is, sooner or later, developed. It is an unfortunate circumstance, that patients too often fall victims even before the accumulation of the tubercles has altered the sonorousness of the chest.

Gangrene of the Lung. This is a rare disease, but does sometimes offer itself to the observation of the practitioner. If it affects the surface of the lung, it occasions a pleurisy with or without pneumo-thorax. Or it may develop itself in the centre of the organ. In the first stage, the symptoms are similar to those of peripneumony or severe catarrh; in the second, to those of pulmonary phthisis. The repulsive odor and the peculiar appearance of the expectoration sufficiently distinguish it from these affections. M. Colin has seen two cases only of this affection.

Pneumo-thorax. This is either a simple affection, or it is combined with liquid effusion. It varies, too, as there is or there is not communication with the bronchia. The respiration is wholly absent in all the extent occupied by the gaseous effusion. This absence is caused by the thrusting back of the lung by the gas collected within the pleura, and by the bad conducting powers of the gas itself. The side occupied by the gas is dilated, and presents the same peculiarity as in empyema.

When the gaseous accumulation enters into the bronchia, being caused by laceration on the lung, metallic respiration and resonance are added to the other signs, and metallic tinkling is added if liquid effusion be also present. In the cases of twofold effusion, and the fistulous communication has taken place, there is metallic tinkling with the above signs; succussion renders the agitation of the fluid evident. If there is no fistula, the two last phenomena alone are present and metallic respiration and resonance are absent. Percussion produces a clear sound in the upper parts of the chest, and a dull one in the most depending ones, when there is both gaseous and liquid effusion.

Diseases of the Heart. After some interesting remarks on the splendid efforts of Corvisart to investigate these affections, the author points out the inconveniences attending his method, and the superior advantages of mediate auscultation. He ably meets and triumphantly refutes the objections suggested to the use of the cylinder. He shows the importance of ascertaining hypertrophy in either side of the heart, and his remarks on that of the right deserve to be quoted at large:

> "In hypertrophy of the right ventricle, it is still more indispensable to employ a means which may make known the disease at the commencement; for the first stage is very short, and the disease acts upon an organ the most essential to life, the texture and functions of which it quickly alters. In fact the column of blood, propelled by the hypertrophied ventricle with too much force, strikes against arteries with thin coats, easily extensible. These arteries are very short, and terminate in an excessively fine network, very near the point of departure of the blood, so that the shock has lost nothing of its force when it arrives there. This capillary system is plunged into a soft, vesicular organ, which lends it no support; it cannot, like the general system, subdivide itself, as we may say; and its circulation is not forwarded by sufficiently numerous or powerful movements. So unfavorably disposed to answer or yield to the increased force of the ventricle, these vessels soon dilate; their tonicity is lost; they become obstructed; the blood stagnates in them, and opposes a daily increasing resistance to the column of blood circulating in the arterial trunks. The right ventricle ceases to admit all the blood brought to it by the veins; local congestions form, both exteriorly and interiorly; œdema develops itself in several parts; the catarrhal and œdematous state of the lung has already long existed.
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> "However, this varicose state, as it may be called, obstructs the purification of the blood, the air can only act upon the smaller quantity now circulating in the lung; the left ventricle receives little of it, and transmits little to the organs; the general debility increases every day, and the exhausted patient sinks, after having experienced, but at an earlier period, the same affections as in hypertrophy of the left ventricle.
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> "We observe here, in the first stage, only an alteration of the lung, which is at first slight, and necessarily confounded with some other affection of that organ; and when the local congestions and the œdema lead us to suspect the primitive affection, the secondary disease is already as much and more difficult and dangerous to

cure. With what eagerness ought we not to embrace a method which furnishes certain data in such dangerous cases, at the only period in which it is possible to combat and overcome the disease?"

In applying the stethoscope to the diagnosis of diseases of the heart, they are divided into those characterised by alteration of the shock, those by the alteration of the sound, and those distinguished by both alterations. They do not include ruptures of the heart, its degeneration or inflammation, induration nor diseases of the auricles.

Alteration of the shock characterises hypertrophy. In this affection there is no change in the movement of the thorax, except what is dependent on the state of the lungs, which are always affected. There is dyspnœa. Percussion yields no result except in very severe cases, when the sound is dull or flat in the præcordial region. The stethoscope presents the following appearances. The contraction of the ventricles gives a strong noiseless impulse, prolonged in proportion to the extent of the disease; the pulsations are irregular and intermittent, and their rythm experiences an increased duration; that of the auricles takes place before that of the ventricles has ceased. If the left ventricle alone suffers, the appearances mentioned are only perceived between the fifth and seventh left sternal ribs, and an examination of the inferior part of the sternum will evince the integrity of the right ventricle. When this last is affected, the reverse happens.

Alteration of the sound characterises dilatation of the heart. There is a sonorous noise on the contraction of the ventricles, and very little shock. This disease rarely affects both ventricles, and is most common on the right. The place where the sonorous clapping noise is heard will indicate its seat. Alteration in both the shock and the sound attends the combination of the two above affections.

In *softening of the heart* the noise returned by the heart is equally moderate, dull, and obtuse in its contractions, and communicates scarcely any impulse.

In the summary which we have now presented of the little work of M. Colin, we have had in view a simple transmission to our pages of its most important statements and facts. These are scattered throughout a number of works which are familiar to many in the profession, but not to all. We shall deem our task not altogether an idle one, if we aid in calling public attention to the important subject of thoracic diseases.

MEDICAL EXTRACTS.

NO. I.

[It is now a number of years since the editors of the Edinburgh Medical and Surgical Journal commenced the publication, in that work, of articles under the above title. They consisted mainly of excerpts from the works of travellers, not professional, illustrative of the history of diseases, of the influence of climate, or of the nature and operation of medicines. Observations, often highly valuable, were thus brought before the medical reader, of which he might otherwise have remained ignorant.

We purpose following this example, in selecting from the works of recent travellers such extracts as may appear interesting to the profession. We cannot promise great regularity, as that will, of course, depend on the number and value of the works of this description that may issue from the press.]

Goitre.—We had entered the great pass of Rotheturn or the Red Tower, which leads through the Carpathian Chain from Wallachia to Transylvania, and were now in the heart of the mountain.

At eight o'clock, we arrived at the village and post office of Prepora, situated under a lofty mountain called Kosag. This rises steep and abrupt over the glen to an immense height. It is seamed by several perpendicular ridges, alternately covered with wood and snow, which gives the sides of the mountain a singularly striped appearance. We stopped at the post house of Prepora to breakfast, and while taking off my great coat, a man came to assist me. We had heard that the plague was in this village, and looking in the man's face, I saw an immense tumor under his jaw, as big as a child's head, and apparently just ripe for lancing. I naturally shrank from the contact of such an assistant, when the kraya or agent of the post said to the man, in distinct Latin, "*sepone*," and the man stood aside; he then turned to me and said with the same distinctness, "*Tumor non est pesti, domnee, esti Gunsha.*" I now found, not only that the peasants spoke Latin, but that they were afflicted with tumors in their necks, like the goitres of the Alps. These tumors were so common, that, of the seven persons then in the post house, five were afflicted with them, including our two postillions. A very little fellow, like a dwarf, now came up to me; he had a silly, vacant countenance, seemed incapable of uttering articulate sounds, and made a motion, by putting his finger in his mouth, that he was hungry. I enquired if there were many such dwarfs here, and the kraya said "*sun multi, innumerabile.*" They abound in every village in the mountains, and they are considered as half fools. Here then were the goitres and cretins of the Alps, in a region where I had never heard of them before. There are none to be found in the chain of the Balkans, where the humidity of the atmosphere descends in rain, but they are abundant in a ridge of mountains not two hundred miles distant, where the vapors fall in snow. This is another presumption in favor of the popular opinion as to the cause—drinking dissolved snow water; an opinion which the people themselves have here adopted. I did not find, however, when I was at Brusa, that any persons complained of this, though the only water they use the whole year is dissolved snow from Mount Olympus. I felt some of these tumors, and they did not appear to have any connexion with the maxillary or salivary glands; they were in the lower part of the throat, loosely attached, and freely moveable, without the smallest pain or inconvenience, sometimes hung so low, as to rest beneath the clavicles.—*Rev. Robert Walsh's Journey from Constantinople to England*, p. 149.

Fever.—All persons experienced in this climate deny that any of the country fevers are contagious.—*Heber's Travels*, vol. 1, p. 98.

The whole skirt and margin of the mountains (in Kemaoon) are surrounded by a thick forest, (the Terrai,) of nearly two days journey, with a marshy soil, and an atmosphere, during two thirds of the year, more pestilential than the Sunderlands, or the Grotto Del Cano, a literal "belt of death," which even the natives tremble to go near, and which, during the rains more particularly, the monkeys themselves are said to abandon. After the middle of November, this is dry, practicable, and safe—*Ib.* p. 367.

Mr. Knight, the station surgeon at Bareilly, told bishop Heber, as his opinion, that the natives were more liable to fever, and recover from it with greater difficulty, than Europeans, who are, in the first instance, better protected against the damp and unwholesome air, and whose full habit of living and the high temperature of their health, make the work of depletion with them at once more easy and more effectual than with men whose pulse is always feeble, and who sink at once into despondency on the attack of a disease which they know to be dangerous.—*Ib.* p. 369.

Bishop Heber passed through this unhealthy forest, in the latter part of November. Among the articles of baggage he mentions *musquito nets*, and calls them "a known preservative against malaria."—*Ib.* p. 373.

Mr. Boulderson told him, that not only the monkeys, but every thing that had the breath of life, left these woods from the beginning of April to October. The tigers go up the hills, the antelopes and wild hogs make incursions into the cultivated plain, and those persons, such as dak bearers or military officers, who are obliged to traverse the forest in the intervening months, agree, that not so much as a bird can be seen or heard in the frightful solitude. Yet, during the time of the harvest rains, when the water falls in torrents and the cloudy sky tends to prevent evaporation from the ground, the forest may be passed with tolerable safety. It is in the extreme heat and immediately after the rains have ceased, in May, the latter end of August, and the early part of September, that it is most deadly. In October the animals return; by the latter end of that month the wood cutters and the cowmen again venture, though cautiously. From the middle of November to March, troops pass and repass, and with common precaution no risk is apprehended.

As we approached the forest, the whole horizon, at some little distance, was enwrapped in a thick white mist, which Mr. Boulderson called "essence of owl," the native name for the malaria fever. The inhabitants through whose villages we passed had large heads, and particularly prominent ears, tumid bellies, slender limbs, and sallow complexions, and scarcely any garments but a blanket of black wool. They were subject to annual attacks of ague and fever.—*Ib.* p. 374.

The fever appears to be an intermittent one, but of the worst kind, resembling, in most of its symptoms, that of Walcheren and the Sunderlands. The disease often kills very slowly, and many persons have a regular attack every May, which leaves them wretchedly weak in November, and from the effect of which they have just time to recover before the fatal month comes round again. With others, it is far less ceremonious, and assumes, from the beginning, a typhus form, which seldom leaves the patient many days in suspense.—*Ib.* p. 376.

From Cheeta Talao, the road lay through a deep and close forest, in the lower parts of which, even in the present season, (March,) the same thick milky vapor was hovering as that which I saw in the Terrai, and which is called "essence of owl." We passed one or two places of this kind both yesterday and today, than which no fitter spots could be conceived, at a proper time of year, to shelter a tiger, or communicate a jungle fever.—*Ib.* vol. 2, p. 80.

The worst (at Kairah) is its extreme unhealthiness; besides the burning heat under which all Gunerat suffers, and in which it is more unfavorably circumstanced than any other province in India, there is something in the nature of the soil, which, like the Terrai, though not in so fatal a degree, affects mankind, and especially Europeans, with fever, ague, and other complaints of tropical climates. Here, as in the Terrai, the servants ascribed their illness to the badness of the water. The majority of the wells are certainly brackish. I am myself inclined to impute the unhealthiness of the station to the quantity of saltpetre in the soil; a circumstance in which this district appears to resemble Lower Bengal.—*Ib.* p. 118.

Island of Ceylon. It is singular that it is not where the jungle is thickest, that malaria most prevails; but the banks of rivers running swift and clear over a rocky bottom, are more liable to fever than any other places.—*Ib.* p. 186.

The banks of the river, (near the city of Candy,) along which we rode some distance, are here, as elsewhere, the most productive of fever; it is called the "Candian Fever," and appears to be an intermittent, which arrives at its height on the eleventh day, and, like all others of the sort, in a tropical climate, is liable to return at any period.—*Ib.* p. 191.

Last year, (1824,) Ceylon suffered from sickness, in common with all India, very severely, which only ceased when the rains set in; they having been preceded by an unusual drought.—*Ib.* p. 202.

The Hindoos.—It is not true that animal food is prohibited to them. Thus many Brahmins eat both fish and kid. The Raypoots, besides these, eat mutton, venison, or goat's flesh. Beef alone is prohibited. Nor is it true that Hindoos are much more healthy than Europeans. Liver complaints and indurations of the spleen, are very common among them.

particularly with those in easy circumstances, to which their immense consumption of "ghee," or clarified butter, must greatly contribute. To cholera morbus, they are much more liable than the whites, and there are some kinds of fever which seem peculiar to the native race.—*Ib.* vol. 1, p. 45.

Leprosy in both its most formidable kinds.—Elephantiasis and leontiasis are said to be almost as common here (Calcutta) as in Syria and Arabia, and I have seen instances of both kinds among the beggars in the streets, though certainly not so many as the accounts which I had heard would have led me to suspect. The swollen legs of the former complaint I have noticed in three or four excursions: of the latter, only two instances have occurred to me—one a miserable native beggar; the other, a European of the lowest rank. The first had lost all his fingers, his nose, and several of his toes; the second is of a hideous, mealy, white complexion. Among Europeans, it is allowed to be very unusual; but when it comes, it answers in all respects to the fatal disease described by Michaelis is his "Ammerkungen Uberdie Mosaische Gericht," and can only be palliated and a little delayed in its course, by any remedies which medicine can supply.—*Ib.* vol. 1, p. 68.

Our boatmen, though in the prime of youth and well fed, showed too many symptoms of the ill effects occasioned by their constant vicissitudes of water, sun, and toil. The backs and skins of many of them were scaly, as if with leprosy, and they spoke of this complaint as a frequent consequence of their way of life, though this particular eruption, they said, always left them if they remained any time at home, and reappeared on their return to their aquatic labors.—*Ib.* p. 118.

Benares.—The population of this city, according to a census made in 1803, amounted to 582,000. It is built in an excessively crowded manner. But it is well drained, and stands dry on a high rocky bank sloping to the river, to which circumstance, as well as to the frequent ablutions and great temperance of the people, must be ascribed its freedom from infectious disorders. Accordingly, notwithstanding its crowded population, it is not an unhealthy city, yet the only square or open part in it, is the new market place, constructed by the present government.—*Ib.* p. 251.

Difference of Complexion in the Natives of India.—The great difference in color between different natives struck me much: of the crowd, by whom we were surrounded, some were as black as negroes, others merely copper colored—and others little darker than the Tunisines whom I have seen at Liverpool. Mr. Mill, the principal of Bishop's College, who, with Mr. Corrie, one of the chaplains in the Company's service, had come down to meet me, and who had seen more of India than most men, tells me, that he cannot account for the difference, which is general throughout the country and every where striking. It is not merely the difference of exposure, since this variety of tint is visible in the fishermen, who are naked and all alike. Nor does it depend on caste, since very high caste Brahmins are sometimes black, while Parahs are comparatively fair. It seems, therefore, to be an accidental difference, like that of light and dark complexions in Europe, though where so much of the body is exposed to sight, it becomes more striking here than in our own country.—*Ib.* p. 45.

The Portuguese natives form unions among themselves alone, or if they can with Europeans. Yet the Portuguese, during a three hundred years' residence in India, became as black as Caffres.—*Ib.* p. 78.

Effects of a low Temperature in producing Pulmonary Complaints.—Exposure to a cold atmosphere, *when the body is well clothed*, produces no bad effect whatever beyond a frost-bitten cheek, nose, or finger. As for any injury to healthy lungs from the breathing of cold air, or from sudden changes from this into a warm atmosphere, or *vice versa*, it may with confidence be asserted, that with due attention to external clothing, there is nothing in this respect to be apprehended. This inference, at least, would appear legitimate, from the facts, that our crews, consisting of one hundred and twenty persons, have, for four winters, been constantly undergoing, for months together, a change of from eighty to a hundred degrees of temperature, in the space of time required for opening two doors (perhaps less than half a minute) without incurring any pulmonary complaints at all. Nor is a covering for the mouth at all necessary under these circumstances, though to most persons very conducive to comfort; for some individuals, from extreme dislike to the condensation and freezing of the breath above the "comforter" generally used for this purpose, have never worn any such defence for the mouth, and this without the slightest injurious effect or uncomfortable feeling beyond that of a cold face, which became comparatively trifling by habit.—*Capt. Parry's Third Voyage*, p. 57. Amer. edit.

Night Blindness. (Nyctalopia.)—The disease of night blindness, that is, requiring the full light of day to see, is very common, Dr. Smith (an army surgeon) said, among the lower classes in India, and to some professions of men, such as soldiers, very inconvenient. The Sepoys ascribe it to a bad and insufficient food, and it appears to be always most prevalent in a scarcity. It seems to be the same disorder of the eyes with which people are afflicted who live on damaged or inferior rice, in itself a food of very little nourishment, and arises from a weakness of the digestive powers. —*Heber's Travels in India*, vol. 2, p. 50.

Fevers—Idiotcy—Goitre.—The diseases of the coasts (of Central America) for the most part consist of intermittent fevers, which, when contracted by the inhabitants of the temperate regions, are very difficult to cure, frequently clinging to the sufferer till they produce the most perfect mental debility, and oftentimes idiotcy. The number of idiots and of individuals in other stages of madness is truly melancholy, and of these the greater part have been produced by fevers contracted on the coast. In some of the provinces the inhabitants are dreadfully afflicted with a swelling in the glands of the throat, vulgarly called "gueguecho;" these sometimes grow to a enormous size, and when accompanied by idiotcy, or extreme imbecility of mind, which is by no means uncommon, they furnish a most humiliating and painful spectacle. These swellings are generally attributed to some deleterious quality in the water, and are considered by the natives as incurable. Whatever be the cause, the effect is most distressing; and although the united provinces presented more temptations to the Europeans than they at present do, the thought that the climate, the water, and the diseases most prevalent in the country, all conspire in lowering the tone of the mind, and sapping the foundation of man's noblest faculty, would make the most sanguine pause before choosing it as a permanent residence.—*Dunn's Guatemala.* p. 256–7.

QUARTERLY INTELLIGENCE.

FOREIGN.

ANATOMY AND PHYSIOLOGY.

Experiments on the Velocity of the Circulatory Motion of the Blood, and on the quickness with which the secretions are performed. By E. Hering, Professor at the Veterinary School of of Stuttgard. (Zeitschrift fur Physiologie, t. ii. p. 85.)

These experiments, to the number of eighteen, were made on horses. There was injected, or rather infused, into the jugular vein, a solution of hydrocyanate of potash and iron. To introduce the liquid, there was employed a glass tube, of the size of a writing quill, capable of being closed by means of a stop cock, and surmounted by a brass funnel, holding two ounces of liquid. The tube being introduced into the vein, the funnel was filled, and the cock opened, to be shut again the moment the liquid had passed into the vein. In this manner the access of the air was prevented. After some time, a vein was opened in another part of the body, and the blood examined by chemical reagents. The animals were killed some time after, and the traces of the liquid introduced were sought for in the secreting organs and their products. The second series of experiments is to form the subject of a separate memoir.

As a reagent for discovering the hydrocyanate of iron in the blood, the author preferred the sulphate of iron to the sulphate of copper, or the hydrochlorate of iron. To form a blue precipitate with this salt, it was only necessary to add a little hydrochloric acid. The hydrocyanate of potash and iron was also recognized, although existing only in the proportion of 1 to 20,000 in the serum of the blood. The small quantities of hydrocyanate not being discoverable in the colored blood, it was necessary to let it rest from twenty-four to twenty-eight hours, to have a clear and limpid serum. Some drops were let fall on white paper, and there were afterwards added a few drops of a solution of sulphate of iron; (1 grain in 3 ounces of distilled water;) a drop of concentrated hydrochloric acid, which was added in the last place, instantly betrayed the presence of the hydrocyanate. This procedure is equally applicable to the solid parts that are submitted to examination.

Passing over the details of the experiments, we arrive at the results obtained by the author.

1st. A solution of hydrocyanate of potash and iron, introduced into the jugular vein of the horse, runs the course of the circulation, and arrives in the jugular vein of the opposite side, *in an interval of from twenty to twenty-five seconds*, (Exp. 8, 10, 13, 14, 16,) or from twenty-five to thirty, (Exp. 12.) It arrives in from twenty-three to thirty seconds in the external thoracic vein of the opposite side, (Exp. 5,) in twenty seconds at the vena saphena major, (Exp. 4,) in from fifteen to twenty seconds in the masseteric artery, (Exp. 6,) in from ten to fifteen and in from twenty to twenty-six seconds in the maxillary artery; lastly, in from twenty to twenty-five and from twenty-five to thirty seconds in the metatarsal artery, always on the opposite side to the place of injection, (Exp. 18 and 16.)

If the liquid introduced by this injection is moved by the same means as the blood, the velocity of the motion must be the same in both. It appears that the velocity of this motion is not increased in the ratio of the number of the pulsations of the heart; for in a horse, in which the pulse was sixty in the minute, (Exp. 8,) and in two others in which it was from thirty-six to forty-four, and from forty-eight to fifty-two, (Exp. 13 and 14,) the results were the same. Yet in another, in which the pulse was from thirty to forty-four, the circulation was found to be some seconds slower.

2d. The hydrocyanate of potash and iron, is promptly secreted by the serous membranes, but in small quantities; and this in the inverse ratio of their distance from the heart. Thus, the secretion commences by the internal surface of the pericardium, where it is also the most abundant; it then takes place in the pleura, the peritoneum, and, lastly, in the articular capsules. The cerebral cavities were opened only in a few cases; and there was never found any trace in them of the saline solution injected. In the other serous cavities, the presence of this solution was discovered two, three, four, seven, and fifteen minutes after injection. These moments were also those when the animal ceased to give symptoms of life.

3d. The mucous membranes secrete the injected solution less quickly than the serous. A few minutes are, however, sufficient to discover the foreign principle at their free surface; and, soon after, it is found at their other surface, (Exp. 2, 6, 7, 15, 16.) The mucous membrane of the right half of the stomach secretes more promptly than that of the intestine, and the latter more quickly than the surface of the lungs, (Exp. 6, 15, 16, 17.) Secretion is much slower at the genito-urinary surface; what was found of the solution in the urinary passages came only from the kidneys.

The mucous surfaces covered with an epithelium (as the walls of the mouth, the pharynx, the left half of the stomach, in the horse) gave no traces of secretion of the saline solution injected.

4th. The liver, the spleen, the thyroid gland, &c. allow the presence of the hydrocyanate to be detected only with difficulty, on account of their dark color. The salivary glands appeared to perform a considerable part in the elimination of the foreign substance, (Exp. 5, 6, 7, 16, 18.)

5th. The kidneys act also very powerfully. The reagent manifests the presence of the hydrocyanate in the interval of one minute, (Exp. 9,) in the cortical and tubular parts, and in the pelvis. The passage of the urine through the ureters being rather slow, the consequence is, that the bladder does not present traces of the foreign precipitate until after a pretty long interval. The small bloodvessels of the kidneys gave signs of reaction, while the large ones gave none; whence it might be concluded, either that the circulation is slower in the former, or that the hydrocyanate already commences beforehand to separate from the blood.

6th. In the lungs this salt is not so difficultly discovered as might have been presumed.

7th. The saline solution adheres in some cases to the walls of the bloodvessels, and is then easily discovered by the reagents, (Exp. 15, 18;) more frequently it does not adhere to them, (Exp. 5, 16, 17.) Sometimes it adheres in some of them and not in others, (Exp. 6.) The cause of this difference is unknown.

8th. The shortest time which the solution takes to reach the thoracic duct is still undetermined. A minute sufficed in one case, (Exp. 9,) and from two to five minutes in others, (Exp. 18, 10, 7, 15, 6, 5.) It is only discovered a little later in the lymphatic ganglia, although it already occurs in the thoracic duct. It, therefore, would appear, says the author, that there is a direct communication between the arteries and lymphatic vessels.

9th. The foreign substance introduced into the blood is quickly ejected by the secreting organs, especially by the kidneys. The diminution was perceptible after a few minutes, in Exp. 3, 4, 8, 15. In from five to eight hours there no longer remained any traces of it in the products of the secretions; and, in twenty-four hours, all traces had disappeared even from the solid parts, (Exp. 13.)

10th. Lastly, there results from these experiments, that the hydrocyanate of potash and iron may be mixed with the blood without inconvenience to the animal. A solution of indigo has not the same advantage, (Exp. 11.) A solution of sulphate of iron injected into the blood coagulates it, and speedily causes death.—*Edinburgh Philosophical Journal.*

Double Pupil in one Eye.—A remarkable case of double pupil was observed by professor Pacini, of Lucca, in a young man who, in his childhood, had, from an unknown external cause, been affected with chronic inflammation of the left eye, which had left it in the following state: The external parts of the eye are healthy; the cornea is perfectly transparent, except at its external part, where there is a small pterygium; the pupil is elliptic, the fourth part of a line in height, and one line in breadth, and immoveable even in the strongest light. The upper eyelid being raised, another pupil, three lines and a half in its largest, and one line in its smallest, diameter, is discovered at the upper portion of the iris; it is somewhat directed towards the internal angle of the eye, and likewise insensible to light. The parts behind it are perfectly transparent. The young man is long sighted, and squints, the left eye being constantly turned towards the nose; whenever he looks at an object with both eyes, he sees it simple and distinct; if the healthy eye be closed, and the accessory pupil covered, the object appears confused, but if seen with the superior pupil only, it appears simple and distinct. Whenever he looks with the morbid eye at an object placed before him, he sees its right half only, and that double; in order to see it simple, he is forced to direct the eye towards the external angle, and even then the right half is seen more distinctly and somewhat higher than the other. Objects appear of the same size, whether seen with the morbid or healthy eye; and continued exertion of the former produces a disagreeable sensation in the interior of the globe, so that he is obliged repeatedly to close the eyelids.—*Jour. des Progr.*

On the Cause of Death after the Ligature, or Division, of the Pneumogastric Nerves.—Professor Mayer, of Bonn, concludes, from numerous experiments on this subject, that in almost all the cases where the pneumogastric nerves had been tied, death ensues from the blood of the lungs losing the property of remaining in a fluid state. "If," he says, "the animal dies soon after the ligature has been applied, the heart, as well as the arteries and veins of the lungs, are found filled with a dark colored coagulum, of little consistence; while, in those cases where death ensues twenty-four hours, or more, after the operation, the coagulum is firm, fibrous, of a white color, and penetrates into the smallest vascular ramifications of the lungs." These concretions, Dr. Mayer believes to form during life, and to be the proximate cause of death; they are produced by the tendency of the blood, when deprived of nervous influence, to separate into its constituent parts. After the division of the pneumogastric nerves, the temperature of the animal is either not diminished, or, if it be, the diminution does not correspond with the state of respiration. The most remarkable phenomenon constantly observed by the author, after the operation, is the singular disproportion between its effect on respiration and on the action of the heart; for while the number of respirations is diminished by half, two thirds, or even five sixths, that of the pulsations of the heart is increased to double, or even quadruple. This extraordinary difference, the author infers, is owing to the presence of the sanguinous concretions in the pulmonary vessels, which require an increase of force and frequency in the pulsations of the heart for their propulsion.—*Zeitschr. fur Physiol.*

Sleep.—There are many curious histories of sleeping prodigies on record. The Philosophical Transactions have several: in one, a man slept from August till January. There is a case, read before a society of physicians, in 1756, of Elizabeth Orvin, who began her sleeping fit in 1738, by a four days' nap, and, for ten years afterwards, never slept less than seventeen hours out of the four and twenty. Dr. Brady relates that some strange methods were resorted to to arouse her—such as rubbing her back with honey, and in a hot day exposing her to a hive of bees, till her back was full of bumps; making a pincushion of her, and performing acupuncturation with pins and needles; flagellation, and "other odd experiments," which the doctor informs us he thinks better "to pass over in silence;" all of which might as well have been spared, for she was very sulky, and good for nothing when she was awake. This sulkiness, however, should be noticed as being connected with the complaint. Previously to this somnolent disease many of the persons have become uneasy, sullen, and surly: in all, the mind has evidently been affected; and in some, where there has been extreme abstinence, their waking hours have been characterized by decided mental aberration. A lady in perfect health, twenty-three years of age, was asked by the parents of a friend to be present at a severe surgical operation. On consideration, it was thought wrong to expose her to such a scene, and the operation was postponed for a few hours. She went to bed, however, with the imagination highly excited, and awoke in alarm, hearing, or thinking she heard, the shrieks of her friend under the agony of an operation. Convulsions and hysterics supervened, and on their subsiding she went into a profound sleep, which continued sixty-three hours. The most eminent of the faculty were then consulted, and she was cupped, which awoke her; but the convulsions returned, and she again went to sleep, and slept, with few intermissions, for a fortnight. For the next twelve months she remained perfectly well. The irregular periods continued for ten or twelve years, the length of the sleeping fits being from thirty to forty hours, diminished in duration as time went on, till she got well. Then arrived irritability, and total want of sleep for three months, which was succeeded by aberration of mind. This state continued about six months, when, to the relief of her friends, her sleeping fits returned, and were very regular in their periods, both as to arrival and duration. Her usual time for sleeping was forty-eight hours. She would in the intermediate day be very well till twelve at night, when she went to bed. Sometimes she would awake for a few minutes, take some warm fluid, which was always kept ready with a lamp, but found any effort to remain awake unavailing, and the bare notion of attempting it gave her great horror. Among the sleepy people of modern times, the case of Elizabeth Perkins, of Morley, St. Peter, in Norfolk, should be noticed as a case somewhat resembling that just alluded to. For a considerable time she was very regular in her times of waking, which was once in seven days; after which they became irregular and precarious, and, though of a shorter duration, they were equally profound; and every attempt at keeping her awake, or waking her, was vain. Various experiments were tried; and an itinerant empiric, elated with the hope of rousing her from what he called "counterfeit sleep," blew into her nostrils the powder of white hellebore, being a very powerful sternutative; but the poor creature remained insensible to the inhumanity of the deed, which, instead of producing the boasted effect, excoriated the skin of her nose, lips, and face.—***Quarterly Review.***

The following tables exhibit the results of a series of observations by G. R. Treviranus, on the relative weight and breadth of the brain to that of several of its parts in different mammiferous animals.

Table of the proportionate weight of the rest of the brain to the *medulla oblongata* taken as 100.

Cercopithecus Cynomolgus,	433	Didelphis Virginiana, (Mas.)	81
Canis familiaris, (Junior. Fœm.		Vespertilio Myosotis, (Bechstein)	65
Terræ Novæ,)	361	Cricetus Germanicus, (Mas.)	103
Canis Vulpes,	233	Mus Rattus (Mas.)	104
Nasua Narica, (Mas.)	356	Sciurus vulgaris,	135
Lutra vulgaris, (Fœm.)	246	Lepus timidus, (Fœm.)	174
Mustela Foina, (Jun. Fœm.)	195	Capra Ovis, (Fœm.)	174
Erinaceus Europæus, (Mas.)	170	Cervus Elaphus, (Fœm.)	213
Talpa Europæa, (Mas.)	112	Sus Scrofa Sinensis,	220

Table of the proportionate greatest breadth of the brain *(cerebrum)* to that of the *corpora quadrigemina* (Vierhugel,) the former being taken as 1000.

Simia Sphinx,	191	Didelphis Virginiana,	573
Cercopithecus Cynomolgus,	250	Mus Rattus,	450
Lemur Mongoz,	307	Cricetus Germanicus,	448
Bradypus didactylus,	358	Hystrix cristata,	441
Felis Leo,	272	Cavia Cobaya,	416
Canis Vulpes,	366	Aguti,	433
Lutra vulgaris,	263	Sciurus vulgaris,	439
Mustela Foina,	350	Lepus timidus,	434
Lotor vulgaris,	354	Capra Ovis,	400
Erinaceus Europæus,	347	Sus Scrofa Sinensis,	418
Talpa Europæa,	203		

Table of the proportion of the several parts of the brain to the greatest breadth of the spinal cord in different Mammalia. By G. R. Treviranus.

	Simia Sphinx.	Mustela Foina, *m.*	Erinac. Europ. *m.*	Talpa Europ. *m.*	Didelph. Virg. *m.*	Mus Rattus, *m.*	Sciur. vulg. *m.*	Lepus timid.	Capra Ovis, *f.*
Greatest breadth of sp. cord,	100	100	100	100	100	100	100	100	100
" length of do.	140	96	95	84	81	84	86	85	215
" height of do.	60	77	52	47	40	60	45	71	54
" breadth of cerebrum,	470	308	230	231	147	204	205	230	250
" length of do.	530	411	223	216	212	200	188	234	296
" height of do.	300	193	113	107	87	117	133	97	165
" breadth of cerebellum,	290	222	130	148	151	182	175	191	187
" length of do.	180	142	100	99	74	106	118	121	130
" height of do.	160	111	76	63	23	88	83	101	131
" breadth of corp. striat.	50	45	30	54	27	42	25	32	44
" length of do.	150	113	65	86	81	86	63	68	89
" breadth of thal. n. opt.	70	62	54	41	27	57	43	74	80
" breadth of olf. process,	—	210	143	58	96	—	140	—	176
" length of do.	—	162	136	123	136	102	88	—	140
" breadth of pons,	140	101	71	75	—	60	95	94	100
" length of do.	90	61	37	23	27	35	46	43	48
" length of trapezium,	—	26	—	—	28	35	23	30	21
" breadth of corp. quadrig.	60	108	80	47	79	92	90	100	100
" length of do.	50	77	62	53	54	62	86	86	73

PATHOLOGY.

Ulceration and Perforation of the Duodenum. By M. Robert, Dresser at the Hotel Dieu.—Louis Laurin, æt. seventeen, a shoemaker, and of a lymphatic constitution, had complained for several months of wandering pains at the epigastrium, accompanied six weeks with diarrhœa, and during the last ten days with anorexia, nausea, and general uneasiness. December 10th, 1827, after a meal rather more copious than ordinary, he suddenly felt an excruciating pain, which, commencing in the region of the stomach, soon extended over the whole abdomen, and caused him to vomit, first his food, and afterwards a sort of mucus covered with bile. A physician, who was immediately called in, thought the patient was affected with indigestion, and prescribed for him some camomile infusion, an anodyne enema, and cataplasms to the belly. During the night he remained in the same state, and had no alvine evacuations.

Next morning he was removed to the Hotel Dieu. His countenance was pallid and altered, his skin covered with a cold sweat, his pulse frequent and small, his abdomen very painful and tense, his tongue pale and moist, and bilious vomiting occurred from time to time. Fourteen leeches were applied to the belly, and afterwards emollient fomentations, but with no benefit; for the patient died at four in the evening, after having suffered about twenty hours, dating from the invasion of the peritonitis.

On opening the body forty hours after death, the abdominal cavity was found distended with gases, and a serous, reddish, and very fetid fluid. The peritoneum, deprived of its natural appearance and suppleness, exhibited in divers points a red color, disseminated in striæ or plates; and for the most part it adhered but slightly to the muscular coat of the intestines, from which it could be easily separated. In some places there was subperitoneal emphysema. The posterior cavities of the omenta contained no serous effusion, *(l'arriere cavite des epiploons;)* the intestinal circumvolutions were slightly agglutinated together. The mucous membrane of the stomach appeared sound. At the origin of the duodenum, immediately beyond the pylorus, there was an oval ulceration, three or four lines in diameter, with perpendicular edges, rather puckered, and of a greyish hue; the bottom of it was closed by the peritoneum, which had acquired a yellow tint, and presented a perforation a line in diameter, through which the peritoneal and intestinal cavities had free communication. Near this was discovered another ulceration, as large, but more superficial, since it did not penetrate beyond the mucous membrane. The rest of the alimentary canal was in a healthy state.—*Archives Generales de Medccine.*

Suppuration of the Spleen.—In the Observatore Medico for July, we find the following account:

Dominick Rotunno, ætat. twenty-nine, a miller, of Genosa, near Tarentum, for some time had been affected with obstruction of the spleen subsequently to an intermittent fever. By excess of food and exercise, the tumor became larger and more painful, and ultimately was considered, by Dr. Gaetano Glionna, a well marked case of splenitis. The disease acquired force, despite of venesection, and the abundant use of leeches, purgatives, and emetic tartar; the pain and tension of the hypochondrium increased, and were accompanied with rigors, succeeded by heat and nightly sweats, &c. The induration of the spleen now disappeared, and, augmenting in size, it became soft towards its inferior part, and assumed the general appearance of suppuration. Recourse was immediately had to emollient cataplasms; and the fluctuation was so evident in six days, that it became necessary to open the tumor directly. This was done by plunging a trocar into its centre, which was four inches from the linea alba. Nearly three pounds of very fetid pus flowed out instantaneously; it was rather firm, and at first of a dirty white, and afterwards of a reddish color. The patient experienced immediate relief. The wound was kept open some days, but was quite healed in the course of a week; and Rotunno, entirely cured of his complaint, soon recovered his embonpoint and healthy appearance.—*Ibid.*

Imperforation of the Vagina. By Dr. Cabaret, Basse Maison, near Gloubaray.—Marianne H., æt. twenty-one, of a robust make, had suffered, during five years, pains in the hypogastric region, with borborygmus and other hysteric symptoms, and had never had the menses. These various symptoms were successively combated by emmenagogues, antispasmodics, and the application of leeches to the superior and inner part of the thighs; but none of these means produced any salutary change.

It was then that the patient determined to consult Dr. Cabaret, and she accordingly did so in the beginning of April, 1825. On feeling the hypogastrium with attention, he fancied he could distinguish a very voluminous tumor in the situation of the uterus, which at first induced him to believe that the young woman was really pregnant and attempting to deceive him; but her good character, and the assurance which she gave of never having menstruated, soon led him to adopt a different opinion. On minutely examining the parts of generation, he discovered a thick membrane, by which the vaginal orifice was completely closed. The incision of this membrane was evidently the indication to be fulfilled, which operation Dr. C. executed thus: having placed the patient in a convenient posture, he separated the labia with the index and middle fingers of the left hand, and with a bistoury in the right, he made a crucial incision. Four pounds of blackish blood, mixed with some extremely fetid coagula, immediately issued forth. Some lint was introduced between the divided edges, to prevent their adhesion; and the next day injections were thrown into the vagina, for the purpose of dissolving and bringing away any coagula of blood which might still remain there, and fresh lint was introduced, and kept in situ by a suitable bandage.

The hypogastric tumor had entirely disappeared, and likewise all the symptoms which it occasioned.

By continuing the same dressing for a fortnight, Marianne H. was thoroughly cured, and she has ever since enjoyed healthy and regular menstruation.—*Ann. de la Med. Phys.*

Lachrymal Calculus. By M. Krimer.—A woman, in her thirty-second year, having been for nine months affected with fistula lachrymalis, applied to M. Krimer. By introducing a probe into the fistula, he discovered that the lachrymal sac was not ulcerated, but the nasal duct closed by a hard substance, which he imagined to be an exudation of osseous matter. He vainly attempted to remove the obstruction by forcing a passage with a pointed probe. Upon endeavoring, however, to withdraw the instrument, he met with a resistance for which he was at a loss to account; and, when he had at length extricated the probe, he was not a little surprized to find a calculus, of the size of a pea, adhering to its point. The nasal canal, being again explored, was found quite pervious, and was for a fortnight kept free by the introduction of a bougie. Afterwards the wound was allowed to cicatrise.—*Graefe and Walther's Journal.*

Cholera.—The morbid appearances that are *invariably* met with in cholera are confined to the mucous system; those observed in other systems being only occasional. In all the dissections I have made, the following appearances have been present. A whitish, opaque, viscid substance was found adhering to the surface of some portions of the mucous membranes; and in many cases it was so abundant in the intestines as completely to fill parts of them of a greater or smaller extent. The stomach and portions of the intestines were filled with a transparent or turbid serous fluid; and, frequently, the viscid matter mentioned above was found intimately mixed with the serous fluid, or floating in it in the form of flakes. The mucous membranes (except when inflamed) had an unnatural whiteness; were frequently soft and pulpy; and in general (especially in the stomach and small intestines) could be easily detached by scraping, in the form of a thick pulp, from the subjacent coat. These appearances were sometimes more or less partial; but some of them were generally found throughout the whole extent of the alimentary canal. They extended, in some cases, to the mucous membrane of the bladder and ureters; and were found, in two or three instances, in the pulmonary mucous membrane.

The morbid appearances that have been found next in frequency to those already mentioned, are venous congestion in the viscera, particularly in those of the abdomen; dark colored blood in the veins, and sometimes in the left side of the heart; and inflammation in some part of the mucous membranes. I have generally found inflammation (when present at all) confined to the pyloric extremity of the stomach and small intestines. I have also met with many cases in which no inflammation could be detected.—*Christie on Cholera*, pp. 47, 48.

Traumatic Tetanus.—We are inclined to think, that if ever the true pathology of traumatic tetanus be discovered, it will be found, that the nerves leading from the injured part will exhibit symptoms of inflammation, and that this inflammation will extend to the spinal marrow. In a former number we alluded to some researches made by M. Lepelletier, surgeon of the *Hopital du Mans*, on the subject of tetanus traumaticus. He had scarcely published his paper, when the following interesting case occurred, confirmatory of this gentleman's doctrines.

Case. Peter Crepon, aged fifteen years, feeble in constitution, and miserable in circumstances, had been affected with a tumor on the *left* heel, from the age of three years, which, gradually increasing, ulcerated, assumed a malignant character, and, finally, led to amputation, at the hospital of Mans, on the 28th of December, 1827. Nothing particular occurred till the 5th of January, 1828, when he complained of convulsive twitchings in the stump. On the 6th, symptoms of tetanus came on, and were soon unequivocal. It was remarked, that the temporal and masseter muscles of the *left* side only were affected with trismus. This corresponded with the amputated limb. We shall not detail the daily treatment and symptoms. Repeated venesections were performed, and, in almost every instance, they relieved the tetanus for a time; but nothing could arrest the progress of the disease, and death took place on the 9th January.

Dissection. A small depot of purulent matter was found in the stump, on the head of the fibula, with traces of inflammation in the neighborhood. The sciatic nerve at this place was found so much injected as to be of a violet hue, while the same nerve, in the other limb, was of its natural color. This discoloration continued, with some interruptions, up to the hip. The patient, during life, complained of pain in the track of this nerve, when pressed by the hand—and that for some days previous to the development of the trismus. The discoloration could be traced in some branches of the sciatic nerve distributed to the crural muscles. The pulpy substance of the nerve was found to be somewhat softened. The pia mater of the spinal marrow was decidedly injected; especially towards the middle of the dorsal region, where the medulla itself was softened and degenerated in structure. Some reddish effusion was also found under the membranes of the medulla spinalis.—*Journal du Progres.*

The narrator thinks that the evidence of the inflammation of nerve from the stump to the spine, as the cause of the tetanus, is here complete. We do not think that the deduction can be denied, as far as this case is concerned; but, unfortunately, there are other cases of traumatic tetanus, where the most careful dissection cannot detect any inflammation of nerve between the seat of injury and the encephalon. A case occurred at St. George's hospital, where the spinal marrow, and the nerves of the limb, were carefully examined, but without success. These conflicting facts prove that tetanus may be induced by the local injury, with or *without* evident change in the spinal marrow or nerves.—*Medico Chirurg. Review.*

THEORY AND PRACTICE OF PHYSIC.

Dr. Gregory on Smallpox.—Two hundred and two patients were admitted within the walls of the Smallpox Hospital [London] during the year 1828, of whom nine were laboring under some form of eruptive ailment not variolous; such as lichen, measles, and secondary syphilis. Excluding these, there remain 193 patients who were under treatment for smallpox in some of its modifications during the last year, a number considerably exceeding the average of the last twenty-eight years, which is only 155.

Of the 193 patients under smallpox, seventy-one had undergone regular vaccination, leaving a cognizable, and, for the most part, good cicatrix. Fifteen had been cut for the cowpox ineffectually, and 107 took the disorder without having submitted to any kind of preparatory process. The two latter classes united give a total of 122 unprotected to 71 protected cases. None were admitted subsequent to variolous inoculation.

The mortality in the hospital during the year 1828 has exceeded in some degree the average of the last thirty years, being as high as thirty-three per cent. or one in three. The total number of deaths has been sixty-six. Of the 122 unprotected cases, sixty-three died, and fifty-nine recovered. Of the seventy-one who had undergone vaccination, sixty-eight recovered, and only three died.

With these three exceptions, all the vaccinated cases (amounting, as just stated, to seventy-one) recovered; but it may be interesting to contemplate the comparative severity of the disease in these persons. In the duration of each patient in the hospital, we have an index of the severity of the complaint, which scarcely requires any correction; for, with few exceptions, they were all admitted on the second, or, at farthest, the third day of eruption; nor were they discharged until perfectly restored to health.

Thirty-seven patients having smallpox after vaccination were discharged cured, having been in the hospital less than twelve days. Eleven of these were less than eight days in hospital. Forty-seven persons out of sixty-eight were discharged cured within a fortnight from admission. Eight only remained in the hospital upwards of three weeks.

Let us compare this with the experience of the hospital prior to the days of vaccination. I select the years 1794 and 1795, merely because the admissions in these two years approximate closely to those of the year 1828. In 1794, out of 213 patients, three only were discharged within a fortnight from the date of admission, viz. one upon the fourteenth and two upon the thirteenth day; and in 1795, out of 180 patients, two only were so discharged, viz. one upon the tenth and one upon the twelfth day after admission. By far the larger proportion of the discharged cases remained upwards of three weeks, and many were several months in the hospital.

The total mortality in the Smallpox Hospital during the past year, was, as already stated, sixty-six. In order to form some estimate of the critical days in smallpox, I have drawn up a table showing the period of the disease on which each of the sixty-six patients respectively died. The general results are as follow: The day of greatest mortality was the eighth of eruption. Then follow the ninth, thirteenth, eleventh, and twelfth. Twelve patients died prior to the eighth day; thirty-five between the eighth and thirteenth; ten between the fourteenth and seventeenth. All these may be said to have died of the *specific* effects of the variolous poison. Nine died exhausted, *after* the third week of eruption.

With the view of determining how far the imperfection of the vaccine process was traceable to any peculiarity in the matter used, or in the mode of operating, I have drawn out a table of the different countries and counties of England which have afforded the cases during the last year. The general results may be thus stated:

Suffolk yielded the greatest number; a circumstance which has been long noticed by the attendants at the hospital. Then follow Sussex, Essex, Middlesex, and Kent. Gloucestershire afforded four, one of whom was a native of Berkley, and had been vaccinated in early life by Dr. Jenner himself. The northern counties of England did not afford any cases, a circumstance attributable, in all probability, to the great towns in the north absorbing the redundant population of those districts.

Not a single case could be traced as having been vaccinated at any of the stations of the National Vaccine Establishment. It is worthy of note, that all the cases of smallpox after vaccination occurred in persons turned of fifteen years of age; and the period which had elapsed between vaccination and the occurrence of smallpox was never less than ten years: in the larger number of cases it exceeded twenty.

One of the most curious facts which a comparison of the experience of the Smallpox Hospital during the past with former years has brought to light, is the singular coincidence in the mortality of the two periods in spite of the influence of vaccination. From observing the paucity of deaths in those who suffer under smallpox after undergoing vaccination, it might be presumed, *a priori*, that the number of deaths by smallpox per cent. would have diminished since the general adoption of vaccination. But the facts do not bear out this expectation.

In 1794 the rate of mortality was thirty-five per cent. In 1795 it was twenty-seven per cent. Average of the two years, thirty-one. In the year 1828, with seventy-one admissions subsequent to vaccination, the rate of mortality was no less than thirty-three per cent.

From what has been already stated as to the great diminution in the respective periods of hospital residence, it must be obvious that vaccination has diminished in an extraordinary degree *the quantum of bodily suffering in the survivors;* but how are we to explain the fact that the average rate of mortality by smallpox has not diminished since the discovery of vaccination? The principle can be no other than this—that the *modified* cases have taken the place of the *natural distinct;* and, in point of fact, it will be found that the latter, formerly so common, is now become a very rare form of the disorder, insomuch that, for the last two months, not one case bearing that character has been admitted into the hospital. We may generalize one step farther, and lay it down as a great general law, that there are certain constitutions which are naturally *patient* under the influence of the variolous poison. Prior to the discovery of vaccination, these must of course have been far more numerous than at present. In consequence of the disuse of inoculation, and the fewer foci of the poison now to be met with, the disease fastens itself at present chiefly upon those whose constitutions are predisposed by weakness, or some less cognizable circumstance—whose systems are exceedingly irritable under the operation of the poison, and who therefore suffer severely from it. Hence the greater number of confluent and semiconfluent cases in the practice of the present day among the unprotected part of the community; while the proportion of mild and recoverable cases is kept up by *vaccination.*

If I have reasoned rightly on the phenomena before me, the following may be looked upon as a correct statement of the influence of vaccination upon the human body. Those persons whose constitutions are naturally patient under the influence of the variolous poison, and who, prior to the discovery of vaccination, would have had the mild and distinct kind of smallpox, are by vaccination rendered perfectly secure from the attacks of smallpox. Those again whose constitutions are naturally *irritable* under the variolous poison, and who would formerly have suffered severely from it even by inoculation, are now, by vaccination, rendered in a great degree secure from its mortal effects. The few who do fall victims to smallpox after vaccination, are those whose constitutions are so peculiarly susceptible and irritable as to bid defiance to any kind of medical treatment, whether prior to, or during the attack.

Whatever importance may attach to the explanation which I have thus hazarded, the fact is undoubted, that while the absolute mortality of smallpox has diminished in the most remarkable degree since the discovery of vaccination, its relative mortality, or rate of deaths per cent., remains precisely where it was in the earlier periods of the world.

It remains for me only to state, that 3217 persons have been vaccinated at the Smallpox Hospital during the year 1828; that I have had every reason to be satisfied with the character of the resulting vesicles, and that my confidence in the protecting powers of genuine vaccination remains unshaken by any of the events of the preceding year.—*London Medical Gazette.*

Smallpox—Epidemy at Marseilles in 1828.—From the official report which the *Societe Royale de Medecine* of Marseilles has lately published on the mortality from smallpox during the last epidemy, and on the comparative frequency of the disease after vaccination, it appears, that of 30,000 vaccinated individuals, about 2000 were affected with the variolous eruption, which in twenty cases terminated fatally. Of 8000 persons who had neither been vaccinated nor inoculated, 4000 were infected with smallpox, of whom no less than 1000 died. Of 2000 who had been affected with small-pox, either from inoculation or spontaneously, twenty had a second attack of the disease, and four died.—*Lancet.*

Yellow Fever at Gibraltar.—Mr. Oxberry first observes, that persons having once recovered from this fever are not liable to a second attack, which marks the distinction between the yellow fever of Gibraltar, and that of the West Indies. He states, the only remedy which has proved successful in this dreadful disease, is the administration of a large cupful of olive oil every half hour till copious vomiting ensues, which is to be promoted by drinking freely of warm water; the treatment is to be continued till the stomach discharges nothing but *water;* at the same time frequent injections of olive oil and salt and water should be administered; afterwards, an ounce and a half of castor oil, with the injections to be contiuued till the fever subsides. The patient may drink freely of lemonade and acids to excite perspiration; and for diet, good soup, without a particle of grease, is given. Out of eighty-five patients treated in this manner by a Spanish doctor, (whose name is not stated,) only one died. The English practitioners commenced with calomel and bleeding, and under this treatment lost every patient; seeing the efficacy of the *oil*, they adopted it, and proved its value by their subsequent success: were this treatment adopted in the West Indies, it might save the lives of many.—*Lancet, No.* 286.

Infectious Disorders.—The following deductions and reasonings from the nature of infectious disorders, and the conduct generally pursued with regard to them, are not less important than sound: When a disorder is infectious, the place which is the centre of it should be evacuated, and a cordon (in such a case it would be really sanitary) should be established at a certain distance from the spot infected, to prevent people going there, and the people should not, as is now the usage, be shut up within the unwholesome district—a usage, says M. de Fernon, to be compared with the conduct of a chief magistrate of a town, who, if one or two of the inhabitants should fall into a sewer or privy, should surround the place with guards, to prevent their getting out, in the apprehension that they should infect the whole population. The writer goes on to assert, that facts are not wanting to show that there have been cases in which the yellow fever has proceeded from the exhalations of necessaries.—*London Magazine.*

Nonexistence of Hereditary Disorders.—A recent work, *L'Art de conserver la sante et de prevenir les Maladies Hereditaires*, by Dr. P. I. Mongellaz, of Paris, as reported in the "Bulletin Universel," contains some important views on the subject of hereditary disorders; such as consumption, scrofula, gout, gravel, madness, &c. The author shows, that the opinion that these and various affections are hereditary, rests on very slight foundations: and he maintains, in short, that there are, strictly speaking, no hereditary maladies, but only hereditary dispositions to contract maladies; and that, by proper precautions, individuals born of parents subject to any of the maladies mentioned, may be secured from being themselves affected by them. The importance of this view of a subject on which there exist so many pernicious prejudices, and on which the fatality is sometimes so great as to cause the neglect of remedies that might be efficacious, is obvious.—*Ib.*

Yellow Fever at Gibraltar.—This formidable epidemy has at last ceased to rage; and, since the 16th of January, it has been deemed unnecessary to enforce any longer the quarantine, and the other sanitary measures. The number of patients who were affected with the yellow fever, amounts to 5,270, to which, it appears, no less than 1300 must be added, who were not entered in the official accounts; 1412 of the above number were soldiers, and among them the mortality was 1 to 3.41; among other patients, it was only 1 to 4.15; the absolute number of deaths was 1658.

M. Chervin, whose researches on the nature of yellow fever have been given in a former number of The Lancet, was sent by the Academie Royale de Medecine of Paris to Gibraltar, in order to observe the epidemy. In his last communication to the Academie, he declares the disease at Gibraltar to be identical with the yellow fever of the West Indies; and asserts, that the most scrupulous investigations he made, during his stay at Gibraltar, with respect to the contagiosity or noncontagiosity of the disease, have only contributed to confirm his former opinion on the subject. M. Chervin was accompanied by M. Louis, who, soon after his arrival at Gibraltar, had a slight attack of the disease, from which he recovered in a short time. As soon as the official report of MM. Chervin and Louis has been laid before the Academie Royale, an extract of it shall be given to our readers.—*Lancet, No.* 290.

Smoking Belladonna Leaves in Consumption.—A French professor, M. Cruveillier, recommends smoking the leaves of the belladonna, for its soothing effect in cases of consumption, and as a practice which he has found to be attended with beneficial results. The leaves are first infused in a strong solution of opium, and dried imperfectly in the same manner as tobacco. The patients begin with two pipes a day, and increase by degrees to five or six in the same time. The reviewer of this practice in the "Bulletin Universel" suggests, that as it is probable that the efficacy of this remedy consists in the combination of narcotic principles, and not in the mode of its administration, it might be better were it used in the form of aqueous vapors, as a more convenient manner of application, especially in the cases of females and children, and as free from the objection of having, simultaneously with the calming principle of fumigation, an empyreumatic oil, which might counteract its beneficial effects.

SURGERY.

Amputation without Ligature of the Blood Vessels. By Dr. Graefe, of Berlin.—On a late visit to Munich, Dr. Kock assured me that he still continued to practise with success his method of dressing stumps without tying the vessels. To remove the doubts which I repeatedly expressed upon the subject, he promised that his son (whom I have since become acquainted with as a skilful young surgeon) should visit our clinical school, and afford me an actual illustration of the practicability of his plan of treatment. Accordingly, when Dr. Kock, jr. came here not long ago, I entrusted to him a patient on whom amputation of the thigh was requisite for caries of the knee joint; and requested him to adopt all the precautions employed by his father, so that his method of treatment should be executed with due punctuality.

A tourniquet was not made use of, the femoral artery being compressed simply with the finger. The operator made a flap from the inner side of the thigh; finished the removal with great dexterity; immediately brought the wound together with long strips of adhesive plaister, and supported them with a firmly applied roller, without allowing himself to be disturbed by the somewhat freely trickling blood. By means of this dressing, and the uniform compression of the stump by the hand, the bleeding stopped. Unfortunately, however, in a short time the blood reappeared through the bandage; and notwithstanding all the endeavors of Dr. Kock, assisted in every respect as he wished by the medical attendant of the hospital, continued for a period of four hours; the attempts to check the hemorrhage by means of pressure and cold applications failed. During this time the patient had lost so much blood as to render it dangerous to persevere in the plan of treatment employed. Accordingly, after Dr. Kock himself had acknowledged its necessity, the dressings were undone; and the unusually freely spouting femoral artery tied; and the wound again brought together. This healed in the course of the third week; and the patient was dismissed cured on the fourth.

This single case sufficiently confirms the doubts expressed as to the general applicability of Dr. Kock's mode of dressing stumps. In some individuals we have found the arteries few in number, and of narrow calibre; and which, after amputation of the larger limbs, threw out but a small stream of blood. In such cases the firm application to each other of the divided surfaces might perhaps have sufficed for checking the hemorrhage; but how seldom do we meet with such a disposition of vessels? How often do we find, after long continued local diseases especially, a number of vessels spouting which the anatomist has not named? How often are we obliged, after a high amputation of the thigh, to tie eight, ten, or fifteen vessels ere we can, by this most certain of all methods, stop the bleeding? Under circumstances like these, compressive dressing of the stump would not obviate the dangers of hemorrhage.

Even under the most favorable circumstances the method is uncertain, since it not unfrequently happens that immediately subsequent to operations little blood is lost, while, on the circulation becoming excited at a later period, the hemorrhage bursts forth. And it may farther be urged against this plan of Dr. K.'s, that by the tightly applied bandage, and the compression by the hand, the patient is disturbed and molested; and that the adoption of it requires a number of experienced assistants, which we can seldom command. For these reasons, although it may succeed in some individual cases, it is not one fit for general adoption.—*Graefe's Annual Report of the Surgical Clinic in Berlin.*

Cases of Amputation of the Cervix Uteri. By M. Lisfranc.—*Case* 1. Constantia Franck, aged thirty-three years, became affected with pains in the uterine region, after great mental anxiety and reverses of fortune. Towards the close of 1826, she left Brussels, and came to Paris to consult M. Lisfranc. He detected an incipient cancer of the cervix uteri; and some ulcerations had already taken place around the os uteri. The pains were lancinating and constant, with fetid excoriating discharge. Two months of antiphlogistic measures produced no amelioration of the symptoms, and she entered La Pitie to undergo the operation, on the 3d of January, 1827. Three weeks had elapsed since the last consultation, and the disease was found to have made progress. The operation was performed, according to M. Lisfranc's usual method, and the patient suffered little. In one hour after the operation, the hemorrhage became very abundant. M. Lisfranc sat by the bedside, and did not plug the vagina. In two hours the bleeding lessened, and a clot formed. Colicky pains next occurred, and a fit of vomiting expelled the clot. The pains immediately ceased. A slight syncope supervened, but the pulse did not sink much, and the plugging was avoided. In the same evening, there were symptoms of excitement that rose into strong reaction, requiring venesection to six ounces. We need not pursue the diurnal details. The nitrate of silver was applied on the 29th of January. On the 24th February the patient left the hospital cured.

Case 2. Ellen Loos, aged 30, the mother of six children, became affected, after two abortions, with lancinating pains towards the groins, loins, thighs, and region of the uterus. The menses got irregular, and, for nine months previous to her entrance into La Pitie, she had considerable discharge from the vagina. Her mother died of cancer of the uterus. The patient entered the hospital on the 20th January, 1827. She had had 300 leeches applied in the course of three months at two other hospitals. On examination, the cervix uteri presented considerable tumefaction, and deep ulcerations, from which a fetid sanious pus issued. The operation was deemed indispensable, and was performed on the 23d of the same month. The uterus, in this case, could not be drawn as low down as usual, although it was in a state of slight prolapsus. Five lines in depth of the cervix uteri was removed. Considerable hemorrhage ensued, and most of the symptoms described in the preamble of this paper. But the patient ultimately did well, and, by the 18th of March, the cure was complete.

Case 3. Augustine Conder, aged 25, became affected with lancinating pains in the uterine region shortly after an abortion, which she had experienced eight months before she entered the hospital, which was on the 15th February, 1827. The cervix uteri presented a large ulceration, especially on the anterior lip of the os uteri, with reverted edges, and an indurated state of the neighboring parts. The uterus itself was double its natural size. The operation was performed on the 19th, and offered nothing worthy of remark. Very little pain was experienced while the cervix was incised—the whole of the diseased part was removed—and there was scarcely any blood lost. Some smart hemorrhages afterwards supervened, but they did not require the plug. There were considerable pains, and symptoms of constitutional disturbance in the course of the first few days, requiring several bleedings, and all the usual antiphlogistic measures. On the 1st of March, the menses appeared, and flowed for two days, and, on the 14th of the same month, she left the hospital completely cured.

Case 4. Harriet Cuiret, aged 22, had never borne children. Had experienced, for more than a year, lancinating pains in the region of the uterus, with an abundant leucorrhœa. The menses became irregular, and for three preceding months, had scarcely been seen. She entered La Pitie on the 30th of January, 1827, for another complaint, during the cure of which, she disclosed the more important malady. The cervix uteri was found to be tumefied, indurated, profoundly ulcerated. The operation was performed on the 5th of March, as M. Lisfranc was of opinion that there was no time to lose. There was great difficulty experienced in the resection, on account of the narrowness of the parts. The surgeon was obliged to use considerable force in separating the parietes of the vagina, and perform the section of the cervix in the interior of the vulvouterine canal. There was little blood lost at the time; but great hemorrhage succeeded, and was arrested by syncope and the formation of a clot. The clot was afterwards expelled by vomiting —and these formations and expulsions were four or five times reiterated alternately. In one of these hemorrhages there was a loss of more than twenty ounces from the wound. On the 7th April, a copious menstruation took place; and on the 11th of the same month, she was seized with an intermittent fever, which ceded to the quinine. On the 27th of July, she was discharged perfectly cured.

Case 5. Claudine Deschamps, aged 35, was delivered safely of a child in December, 1826, soon after which, the menses were suddenly suppressed by a violent mental emotion. Uterine pains, of a lancinating character, next succeeded, and, on the 6th March, 1827, she entered La Pitie. Large vegetations were discovered on the cervix uteri, and similar excrescences were seen about the verge of the anus. M. Lisfranc thought them venereal, and prescribed mercury, under the influence of which, the external vegetations completely disappeared; but the others continued unaltered. The cervix uteri now became tumefied, indurated, and, in fact, the malady made such progress, that M. Lisfranc decided on an operation. It was performed on the 28th May, at nine in the morning. The hemorrhage was trifling till she was carried to bed, when it became considerable, and syncope was twice imminent, accompanied by chills. A large clot formed in the vagina. At eleven o'clock that night, nausea, hiccup, vomitings, came on, and the clot was instantly expelled; when all the foregoing symptoms ceased. They again recurred, on the formation of a clot, and again the clot was expelled. There were some difficulties in the management of the case, but they were overcome; and, on the 30th June, a profuse menstruation came on. In five weeks the cicatrisation was completed.

Case 6. Madam R——, aged 42 years, perceived, in the year 1823, after some violent moral afflictions, severe pains in the loins and groins, accompanied by leucorrhœa, for which she underwent remedial treatment, without relief, for two years. She then consulted M. Serres in Paris, who found the os tincæ surrounded with slight ulcerations, which were touched with caustic, and this process produced much relief. Eighteen months afterwards, she was induced again to return to Paris, and M. Serres found that extensive ulcerations obtained around the mouth of the uterus. He proposed ablation of the cervix, and M. Lisfranc was summoned. This gentleman found deep ulcerations, surrounded with stony hardness, and attended with fetid discharge. On the 26th April, the operation was performed, without any thing particular occurring afterwards; and on the 27th June, she was pronounced to be completely cured.

Case 7. Rose Rudell, aged 27, had experienced, for the five preceding years, and without any known cause, severe pains in the loins, copious leucorrhœa, shooting pains in the region of the uterus, and irregular menstruation. These symptoms were accompanied by general derangement of the health, and a yellowish tint of the skin. She entered the Hospice de Perfectionnement in the beginning of October, 1827, at the time when M. Lisfranc was on duty there. On examination, by means of the speculum, he found ulcerations and induration of the cervix. On the 19th November, the cervix was completely removed, and it was evident from the ulcerated state of the parts, that the operation was not practised an hour too soon. The usual symptoms occurred after the operation, and she left the hospital completely cured on the 31st December.—*Med. Chirurg. Review.*

Extirpation of the Lachrymal Gland.—A late number of a French journal [the Journal de Medecine Pratique, &c. of Bordeaux] contains an account of some cases of extirpation of the lachrymal gland, by MM. Daviel and Guerin, performed many years ago, but which do not appear to have been published till now.

Case 1. L. S., a peasant, 63 years of age, consulted M. Daviel, August 11, 1741. He stated that, eleven years before, he had received a blow on the upper part of the right orbit, for which fomentations and other remedies were employed; notwithstanding which the eye is represented as having projected from the orbit so as to produce considerable deformity, and to impede its functions, in which state it continued for eleven years. On careful examination M. Daviel discovered a fistulous opening, about a line in width, which penetrated the orbit. By introducing a stilette, an extremely hard body was felt between the globe of the eye and the bone, which was likewise discovered to be carious at the upper part of the orbit. The following operation was performed: A director was introduced into the sinus, and an incision made with a bistoury moderately bent, extending from the small angle till within a line and a half of the great one. By this incision the ball of the eye was exposed, and the caries of the orbit seen, and several pieces of it removed. Nearly an ounce of grumous matter escaped, which had been contained in a strong cyst, and which, as well as the lachrymal gland, was removed. This last was nearly as large as a pigeon's egg. A small fatty tumor was also removed from the small angle; after which the eye was easily restored to its natural situation; and squinting, which had been present before the operation, disappeared. The wound was simply dressed, except that little dossils of charpie dipped in tincture of myrrh and aloes were applied to those points of bone which were exposed. In less than a month the patient was radically cured; the eye being as moist as the other, and capable of weeping, as if the lachrymal gland had been present.

Case 2. Madlle. C. G., aged 18, had suffered from considerable swelling at the upper part of the ball of both eyes for nearly a year. The eyelids appeared œdematous, and the conjunctiva injected: the left eye was much more affected than the other. The disease produced considerable pain, and much inconvenience. On the 1st of August, 1845, the following operation was performed: A vertical plait was made on the upper eyelid, which was divided along with the orbicular muscle and the membrane which attaches the eye to the orbit. A grooved director was then introduced into the incision, which was prolonged to the small angle of the eye by a curved bistoury. A fatty encysted tumor presented itself, in removing which it was found to be attached to the lachrymal gland. This was altered in structure, and was therefore extirpated. The same operation was performed on the left eye. Two points of suture were applied in each eyelid, and the patient entirely cured in ten days, the eyes being moist and capable of weeping, as in the former instance.

Case 3. M. D., aged 50, consulted M. Daviel, 7th March, 1752, on account of a tumor which had appeared on both eyes about a year and a half before. The complaint had come on with great itching of the eyes, particularly the right, the upper lid of which had swelled immediately after he had been bled in the arm A little tumor was perceived, which gradually increased, and pushed the eye towards the cheek: it seemed to penetrate deeply into the orbit, to the upper part of which, as well as to the ball of the eye, it was attached. The tumor was livid, loaded with varicose vessels; its surface unequal, and projecting nearly an inch from the orbit. The patient suffered from pain in the head, and vision was disturbed. He was seen by MM. Bonow, physician to the king of Poland, and Sue, professor of anatomy, who looked upon the case as very formidable; but M. Daviel, encouraged by his two former cases, gave a favorable prognosis, and performed an operation similar to those above described. A large quantity of fat was removed along with the lachrymal glands, which were scirrhus, and of the size of very large olives. The eyes returned into the orbits. General bloodletting, and various local remedies, were required, and the wounds twice opened to give vent to matter formed within them. In a fortnight the patient was cured, and the functions of the eyes restored as completely as in the preceding cases.

In a future number the cases of M. Guerin are promised.—*Lancette Franc.*

MIDWIFERY.

Table of Difficult Midwifery Cases.—From January 1, 1820, to December 31, 1827, there were delivered in the eastern district of the Royal Maternity Charity, under the superintendance of Dr. Ramsbotham and Dr. Francis H. Ramsbotham, 19,439 women, of which cases—

25 were delivered by craniotomy; about 1 in 780.
39 were delivered by the long or short forceps; about 1 in 500.
1 was delivered by the vectis.
62 were presentations of the shoulder or upper extremities; about 1 in 314.
30 were placentar presentations, complete or partial; about 1 in 650.
13 were complicated with *dangerous* hemorrhage before delivery, *not* the consequence of placentar presentation; about 1 in 1500.
135 were complicated with an adherent or retained placenta, causing dangerous hemorrhage; about 1 in 150.
25 were complicated with puerperal convulsions before, during, or after labor; about 1 in 780.
5 were complicated with rupture of the uterus; about 1 in 4000.
In 2 the fœtal head was much enlarged from congenital hydrocephalus; about 1 in 10,000.
2 were triplex; about 1 in 10,000.

During the year 1828, there were delivered in the eastern district of the same charity, under the superintendance of Dr. F. H. Ramsbotham, 2400 women, of which cases—

22 were twins; 1 in 109.
2329 were presentations of some part of the head.
86 were presentations of the breech or some part of the lower extremities; about 1 in 28.
7 were presentations of the shoulder or upper extremities; 1 in 346.
3 were partial placentar presentations; 1 in 800.
3 were complicated with *dangerous* hemorrhage before delivery, *not* the consequence of placentar presentations; 1 in 800.

13 were complicated with an adherent or retained placenta; about 1 in 184.
3 were complicated with dangerous hemorrhage after the expulsion of the placenta; 1 in 800.
6 were delivered by craniotomy; 1 in 400.
3 were delivered by the forceps; 1 in 800.
2 were complicated with convulsions—one before, the other after labor; 1 in 1200.
2 were protracted breech cases; 1 in 1200.
8 women died; 1 in 300.
2316 children were born alive.
106 were born still; about 1 in 23.

Of the deaths—

1 was from hemorrhage immediately after the removal of an adherent placenta.
1 was from irritative fever 18 days after delivery; the placenta having been adherent, and removed by manual operation.
1 was from collapse eight hours after delivery; no hemorrhage: suspected disease of the heart.
1 was from confirmed phthisis.
2 were from peritonitis.
1 was from sloughing of the vagina and perineum, combined with uterine and general abdominal inflammation.
1 was from intestinal irritation following excessive hemorrhage.

Of the stillborn children—

24 were premature.
11 were breech cases at full time.
3 were shoulder cases.
1 was a face case.
9 were putrid at full time, or nearly so.
4 were born after the women had suffered dangerous hemorrhage.
1 was born after the woman had suffered from puerperal convulsions.
In 6 craniotomy was performed.
In 6 the funis presented.—*London Med. Gazette.*

Case of Poisoning by Sulphuric Acid. By J. Orr, Esq.—The following case, which came under my notice while in charge of the depot of my regiment, then stationed at Sunderland, and which was treated in a great measure after the plan recommended by professor Orfila, of Paris, I am induced to forward to you, as affording some little additional light on this very obscure and important subject.

Joanna Carby, æt. 19, a young woman of delicate constitution, in a fit of temporary alienation of mind, arising from hysteric sensibility, swallowed, on the morning of the 4th February, 1827, about two ounces of concentrated sulphuric acid, purchased at the shop of Mr. Bray, an intelligent druggist in Sunderland, and who, on being informed of her having taken the poison, repaired to the room, where she lay in the utmost agony, and occasionally laboring under hysterical fits, accompanied by spastic rigidity of the muscles of the lower jaw, complete loss of speech, great and sudden sinking of the animal powers, weak and fluttering pulse, with paleness and extreme dejection of countenance.

As soon as it could be procured from his shop, (a distance of three or four hundred yards,) Mr. Bray administered a mixture of the carbonate of magnesia, which was with the utmost difficulty passed down the throat, to the amount of two ounces or more; part of which, however, was rejected by vomiting. The patient having remained in an almost insensible state, with coldness of the extremities, was bled by Mr. Embleton, who had in the meantime arrived, as did two other practitioners, who, on merely seeing the case, deemed it hopeless, and departed forthwith, leaving the patient under the charge of Messrs. Bray and Embleton.

On the evening of the 4th I was requested by a brother officer, with whom the patient had been living previous to this unfortunate occurrence, and who was much interested in her behalf, to visit her; which I accordingly did about 7 P. M. (she having taken the vitriolic acid about half past 9 A. M.) and found her lying in a state of insensibility and collapse, from the bleeding, but on the whole apparently much relieved. On pressure in the region of the stomach, more particularly at its cardiac orifice, she evinced a slight sense of pain; and I suggested the immediate application of leeches to the epigastric region, to be followed by a large blister on the same part. A large quantity of castor oil and a copious enema were administered, and a decoction of linseed given as common drink. During the night she remained in a quiet state, but unrefreshed by sleep; the breathing was occasionally hurried and stertorous; and on the morning of the 5th, her pulse becoming more rapid, with increased tenderness and pain in the epigastrium, about sixteen ounces of blood were drawn from the left arm, and the oil and enemas repeated. During the night she had six or seven very copious stools, of a perfectly black color, and highly fœtid. She slept a considerable time, and soundly, during this day, but in the evening her pulse again rose to 140, was small and easily compressed, with increased tenderness and pain in the abdomen and throat, and slight pain at the "basis cranii." Another blister was applied to the thorax, and the tartar emetic ointment ordered to be rubbed into the neck, which occasioned considerable irritation of the external parts, and afforded the most decided relief.

On the 6th she swallowed some arrowroot without much difficulty, and the tongue, which had become tolerable clean during the previous day, seemed to have been but partially injured, retaining the sense of taste to a considerable extent; the fauces, from being swollen and inflamed, became less painful, and many words were very distinctly articulated, and in a firmer tone. She had slight cough and sputa, mixed with mucopurulent matter, apparently from the upper part of the trachea, muscular power in that region having almost ceased since she swallowed the acid. She had two or three dejections during this day, of varied color, but latterly more natural, and containing a good deal of bile. Pulse 131, and more equal; tongue cleaner; pain of head gone; sits up in bed, and is cheerful, and swallows with less difficulty.

Feb. 7th. Passed a good night; pulse 98, and firm; less pain in swallowing; very slight tenderness in the abdomen; ate some more arrowroot, and continues to drink linseed decoction, with gum arabic dissolved in it. Had several stools of a more natural color, and speaks with regret of her forlorn condition.

Feb. 8th. Convalescent.

From this period until the time I left Sunderland (about a week afterwards) she continued to improve. In this case two points are worthy of notice: the very great benefit derived from the bleeding, notwithstanding the presence of symptoms contraindicating its necessity, and which was repeated on the slightest appearance of returning pain, and I have no doubt was that which most decidedly operated against the supervention of gangrene; and, secondly, the marked and beneficial results from the application of external stimuli to the regions of the abdomen and thorax. The primary administration of carbonate of magnesia, by my friend Mr. Bray, cannot be too much praised, as it, in the first instance, saved the patient, affording an opportunity for the trial of the other medicines and treatment which followed.—*London Med. Gazette.*

Expulsion of the Placenta three months after Abortion.—The latter end of April I was sent for to see a lady who had aborted at a little beyond the fifth month. The placenta did not come away after the expulsion of the embryo. The lady continued to enjoy but an indifferent state of health for three months; and had frequent sanguineous discharge till the following July. When I was sent for to see her I was informed that the lady had been taking a ride on horseback, and on her return home had been attacked with slight pains and a uterine hemorrhage. These symptoms lasted but a short time, and again returned: they were now more severe, and were followed by the expulsion of the placenta. The following spring the lady was again pregnant, and has had several children, and now enjoys good health, &c.

The placenta weighed eight ounces; substance hard; shape and size of a good pear, and had a dark, livid appearance.—*London Medical Gazette.*

Annual Report of the Royal Lying-In Institution, at Dresden. By Professor Carus.—The number of births which occurred during 1827, was 220, of which thirty-three required obstetrical aid, viz., one perforation, one cæsarian section, one induction of premature labor, and seven extractions; in four cases the child was turned, in nineteen the forceps were applied, and in six the placenta was detached. There was one case of three children at a birth, and four of twins; the number of males was 115, that of females was 110; twenty-one girls and eight boys were born prematurely; the largest child was twenty, the smallest sixteen inches and a half in length; the weight varied from four pounds and a half to ten and a quarter. Of 223 women who were delivered, not more than seven died; the others left the hospital a shorter or longer period after delivery, perfectly well.

In one of the cases where the child was extracted, the operation was rendered necessary by the umbilical chord having prolapsed; the abdominal surface of the child being directed towards the symphysis, it was turned round its longitudinal axis, but was born dead: immediately after its birth, a violent hemorrhage ensued, to arrest which the placenta was extracted; the uterus showed, however, no tendency to contract, the hemorrhage frequently recurred, and the patient died on the seventh day after delivery, from loss of blood.

Perforation was performed in a case, where, from previous rachitis, almost all the diameters of the pelvis were found too small. The uterine contractions were not sufficient to expel the child, after the removal of the brain, and it was necessary to extract it. After ten days the mother was discharged cured.

The cæsarian operation was performed on an individual, in whom nearly the whole osseous system was deformed by rachitis. The length of the whole body was thirty-six inches; the distance between the cristæ ileii was eight and a half inches; between the great trochanters nine inches and a half. The spinal column was extensively distorted; the distance of the promontory of the sacrum to the symphysis was two and a half inches, and the cavity of the pelvis was so small, that it was hardly possible to reach the head of the child. The incision through the abdominal skin and linea alba was seven inches long; the child was extracted alive, and did well, but the mother died on the third day. The wound of the uterus was found very widely gaping.

Labor was brought on prematurely in a person, in whom, on account of deformed pelvis, the head of the child had been perforated in a previous labor. The child being eight months old, sixteen inches in length, and five pounds in weight, appeared perfectly capable of having lived, but it unfortunately presented with the feet, and owing, most likely, to this circumstance, was born dead. The mother left the hospital on the ninth day.

In the case where three children were born at a birth, labor was very quick, lasting not more than ten minutes. All the children exhibited signs of retarded and incomplete development, and died within a short time after birth. The quantity of liquor amnii amounted to thirty-four pints; the common placenta, two pounds in weight, was eleven inches in diameter. The secretion of milk and the lochial flux were regular, and the mother was able to leave the hospital on the twentieth day.—*Gemeins. Feitschr. f. Geburtsk.*

Report of the Lying-In Hospital at Heidelberg, under Professor Naegele.—During the years 1825 and 1826, 415 children were born, of which 199 were boys, and 216 girls. In 394 the head, in four the face, in fifteen the breech or feet, in one the arm, and in another the shoulder presented; not more than two women died; sixteen children were born dead, and nineteen prematurely; out of which there were three abortions. In six cases twins were born.

The forceps were applied in fifteen cases; in ten of which the contractions of the uterus were insufficient to expel the child; in three cases the operation was rendered necessary by the smallness of the pelvis; and, in two, by the prolapsus of the funis, the head presenting.

The operation of turning was performed three times; in one case where the shoulder, in another where the arm, and, in a third, where the funis presented; the last child only was saved.

Perforation was performed in a rachitic female, who, when brought into the institution, had been several days in labor. The head was forcibly pressed into the brim; after a very powerful contraction, the waters escaped, the head remaining immoveable; the pains suddenly ceased, and the patient complained of a violent burning pain in the belly, and a sensation of faintness; the countenance was pale, the pulse very small, and the extremities cold; perforation was immediately performed, and the child extracted; but the uterus did not contract, the belly swelled, and was very tender; the patient became very restless, vomited, &c. and died on the same evening. On examination, the lower portion of the uterus was found ruptured to the extent of four inches; the abdominal cavity was filled with extravasated blood, and exhibited distinct signs of inflammation. The distance from the promontory of the sacrum, to the symphysis, was three inches.

In a case of very small pelvis, labor was artificially brought on in the eighth month of gestation, with complete success.

In a young female, with very large pelvis, labor was unusually quick; when the head descended through the external genitals, violent hemorrhage ensued; the funis was twisted round the neck, and the body was born before it could be loosened. The umbilical vessels were found extensively lacerated; one of the arteries being completely torn asunder, and the vein partially ruptured. The child was very pale, and asphyxiated, but soon after the ligature of the funis, restored to life.—*Klinische Annal.*

CHEMISTRY.

On Efflorescence.—The following observations are by M. Gay Lussac. Many salts, when exposed to the air, are well known to effloresce; that is, they fall to powder, and lose their water of crystallization; and it is generally supposed that salts, after efflorescence, are perfectly anhydrous. Having been long convinced that this opinion is not correct, I have made some experiments upon the principal salts, which are efflorescent in a high degree. Crystallized sulphate of soda, exposed to the air, even when it is not very dry, readily loses all its water of crystallization. Phosphate of soda becomes readily opaque, without losing its form. After three months exposure to the air, it contained, on the 18th of July, 7.4 of the 12 proportions of water, which it contains in its usual state. Reduced to powder, and thinly spread upon paper, it contained, on the 26th of July, 5.65 proportions of water; again exposed to the air during a hot and dry period, it contained, on the 31st of July, only 5.65 proportions; afterwards exposed till the 21st of October, the weather having become colder and more damp, it was found to contain 7.2 proportions of water; some phosphate, which had been calcined, absorbed, in five days' exposure to the air, nearly half a proportion of water. Carbonate of soda, on exposure, exhibits nearly the same phenomena as the phosphate; it becomes opaque, loses much water without altering its form; but I have never found it anhydrous after exposure. It results from these observations, that some salts completely lose their water of crystallization by efflorescence; but that others retain variable quantities, according to the hygrometric state of the air. I do not assert, however, that the water may not remain in definite proportions; it merely appears that, in the phosphate and carbonate of soda, which retains a proportion of water of a certain number—the seventh for example—differs but little from that which unite the proportion immediately above or below.—*Ann. de Chem.* xxxvi. 335.

On the Variation of the Freezing Point in Mercurial and Spirit of Wine Thermometers. By M. YELIN.—M. Bellani appears to be the first who discovered, in 1808, that the freezing point is liable to vary. He mentioned it in the Pavia Journal of Natural Philosophy; but his observation did not attract the attention of philosophers, and was forgotten, until the editors of the Bibliotheque Universelle took the subject in hand. Of twenty-one thermometers which M. Yelin submitted to a new examination, there was only one that retained its original freezing point. In most cases the freezing point was too high, so as to correspond sometimes to + 2°. Cases, however, were met with in which it was too low.—*Kastner's Archiv.* t. ii. p. 109.

Effects of Light on a solution of Tartar Emetic and Antimonial Wine.—When a solution of tartrite of antimony and potash is exposed for some weeks to the direct rays of the sun, in a close vessel, it is rendered turbid, and a precipitate forms, which has the properties of protoxide of antimony. In one instance, that a drachm of tartar emetic, dissolved in four ounces of distilled water, was exposed to sunshine at Corfu and Malta during twelve months, the precipitate collected weighed one grain, and consisted of peroxide as well as protoxide of antimony. The decomposition, from the action of the sun's rays, takes place very slowly at first, till the solution has become turbid, and then the change is greatly accelerated. This, probably, is owing to the particles of oxide of antimony disengaged exerting an influence on the others, similar to what is witnessed in the experiment of the precipitation from an acid solution of one metal by another.

It might, perhaps, be expected, that antimonial wine would be more liable to change, from exposure to the sun's rays, than a solution of tartar emetic; but it is the reverse. After a year's exposure, a portion of this wine, according to the London Pharmacopœa.

had undergone no change; and two different samples of antimonial wine, one made with a sweet wine, like Malaga, and another with a dry wine, like cherry, which had been kept many years in the Mediterranean, exposed to dull light, were both as good as when first prepared. There was a very minute sediment of extractive matter in the first, and a more considerable one in the second, which appeared to be composed chiefly of tartrate of lime and vegetable coloring, and extractive matter, without oxide of antimony.

The application of these results to pharmaceutical purposes is so obvious, that it is useless to point them out.—JOHN DAVY, M. D. *Jameson's New Edinburgh Phil. Jour.* No. 11.

Nitrate of Silver, a test for detecting the presence of minute quantities of Vegetable and Animal Matters in Water.—Nitrate of silver, dissolved in pure water, is not altered by the sun's rays. If the minutest quantity of animal or vegetable matter is present, the solution is discolored; and with common distilled water the discoloration is strong. To prove that the cause of the change of color is the one assigned, it is sufficient to allow the colored matter to subside, decant the colorless solution and expose it again to sunshine. However powerful the sun's rays are, no farther effect is produced; but add more common distilled water, and the phenomena will instantly appear.

I believe nitrate of silver, thus used, is one of the best tests of the presence in water of very minute portions of animal and vegetable matter; of course, any chloride of silver that may be formed in consequence of the presence of any muriates, should be allowed to subside in the dark, and the subsidence should be complete before the fluid is decanted and exposed to light.—*Ib.*

New Species of Ether.—Alcohol, saturated with sulphurous acid gas, kept many months and then agitated with barytes in powder, decanted and distilled, has afforded a fluid more oily to the feel than alcohol, and of a peculiar acid and etherial smell, seeming to indicate the production of a new compound, perhaps a new species of ether.—*Ib.*

Weight of pure Atmospheric Air.—Dr. Prout is at present occupied with the investigation of this important subject, and though he has not yet brought his researches to a conclusion, he permits me to state, that 100 cubic inches of pure atmospheric air at 60 Fahr., and 30 inches of the barometer, weigh at least 31 grains. The estimate of 30.5 grains deduced from the observations of Schuckburgh, is therefore incorrect.—*Turner's Chemistry*, 2d edition.

Purgative Quality of Glauber's Salts as connected with the Sulphate of Iron it contains.—Out of six different specimens of Glauber's salts (Dr. Davy calls it *Glauber salt,)* which I have examined, I have found five to contain a small quantity of iron, probably the sulphate, and one only free from iron. The iron was detected by aqua ammonia added to the salt in solution; it occasioned a yellowish brown precipitate. Dr. Paris, if I rightly recollect, in his Pharmacologia, expresses it as his opinion, that Glauber's salts are a more tonic aperient than Epsom salts. The presence of a little iron in the one (which I have never been able to detect in the other) aids in accounting for this difference in effect. No doubt Epsom salts may be made tonic by the addition of a very minute portion of iron, and particularly of the sulphate.—JOHN DAVY. *Jameson's New Ed. Phil. Journal.*

Observations on the Chemical Nature of Urinary Concretions. By JOHN YELLOLY, M.D., F.R.S.—The account given by the author of his examination of the urinary calculi contained in the Norwich collection, the total number of which is 649, relates more particularly to those which have been either purposely divided, or accidentally broken in the extraction, and which amount altogether to about 330. He gives a tabular view of the results of his analysis of these calculi, and states, in the order of their occurrence from the centre, the consecutive deposits of the different materials of which they are composed. About one half of the specimens consist only of one description of substance, and the remainder are formed of alternating layers, more or less numerous, of most of the substances which enter into the composition of human urinary calculi. The distinction between the lithic acid and lithate of ammonia, though generally recognized abroad, was scarcely attended to in this country, until noticed by Dr. Prout. The lithic calculi form, as is usual, the most numerous class of concretions in the Norwich collection, where they amount to nearly a third of the whole number; and if the number of those containing either lithic acid or lithate of ammonia as a nucleus, be taken into account, it will appear, as already observed by Dr. Prout, that not less than two thirds of all urinary calculi either consist of the lithates, or have those substances as their nuclei; whence it may be inferred, that a large proportion of them probably owe their existence to the previous formation of such a nucleus. The deposition of the phosphates is not followed by that of the other materials. The oxalate of lime is the only substance entering into the composition of urinary calculi, which is ever found in the form of distinct and specific crystallization; and it then forms what is called the mulberry calculus. The author is led, from his observations, to suspect that carbonate of lime, although rarely found in a separate form in calculi, is not an unfrequent concomitant of phosphate of lime. With the assistance of Dr. Prout and Mr. Faraday, he ascertained the presence of carbonate of lime in some of the specimens which were not previously supposed to contain it. This result was also confirmed by the analyses of several specimens of calculi from the collection in the Hunterian Museum, and also from the Museum of Guy's Hospital, which he was permitted to examine.

The author is in hopes of being able to make some additions to this communication, if he can obtain permission to divide some of the remaining calculi in the Norwich collection, so as to give to the Society the result of the whole analysis.—*Philosophical Magazine.*

Method of Obtaining Pure Crystals of Carbon.—In the sitting of the Academie des Sciences, on the 3d of November, M. Gannal gave an account of his researches on a method of obtaining crystals of carbon, by means of the action of phosphorus on the carburet of sulphur. The latter substance being placed in a retort, and covered with a small quantity of water, a few pieces of phosphorus were introduced, and brought into contact with the carburet; the phosphorus immediately melted, and was precipitated in a liquid state, so that the contents of the retort were separated into three strata; the fluid being now shaken became of a milk color, but when left quiet, soon separated into two strata, the uppermost of which was water, the lower phosphuret of sulphur; and these on a closer examination were found to be divided by a thin layer of white powdery substance, which, when exposed to the rays of the sun, produced the colors of the prism. Encouraged by the success of this experiment, M. Gannal repeated it on a larger scale; the quantity of water, phosphorus, and carburet of sulphur, used in the second experiment, was eight ounces of each; the three substances having separated were left at rest, and after twenty-four hours a very thin pellicle, consisting of a white powder, formed between the water and the carburet of sulphur, and presented several centres of crystallization. After some days this pellicle had considerably enlarged, at the same time the separation of the two lower strata became less marked, and at the expiration of three months they appeared to form one mass. The crystallized substance was removed from the phosphuret of sulphur with some difficulty, on account of the great inflammability of the two substances. The crystals were found to produce the colors of the prism, and the largest of them, which were the size of a millet seed, when shown to M. Champigny, a jeweller of great experience, appeared to him to be real diamonds.

In the sitting of the Academie Royale on the 24th of November, M. Thenard gave the results of his chemical examinations of these supposed diamonds, which he found to consist entirely of silica, and when brought into contact with oxygen and submitted to the action of a voltaic pile, to afford no carbonic acid. M. Arago stated, also, that light was polarized under a very different angle from that observed in the diamond.

MEDICAL JURISPRUDENCE.

On the Tests of Prussic Acid. By Edward Turner, M. D., F. R. S. E., &c.—Having occasion a few weeks since to consult the essay of M. Lassaigne on the detection of the prussic or hydrocyanic acid in the body of animals poisoned with that substance, I was surprized at observing a chemical error, which, unless corrected, may give rise to serious mistakes. A short notice on this subject is the more necessary, as the essay in question has been inserted without comment in some of the British journals, and is therefore likely to be consulted by the medical jurist in this country. I beg leave, therefore, to offer a few remarks, intended to correct the mistake into which M. Lassaigne has inadvertently fallen, and render his otherwise valuable essay a safe guide to the medical public.

In the report of M. Lassaigne's essay by MM. Thenard, Magendie, and Vauquelin, published in the *Annales de Chimie et de Physique*, xxvii. 200, three tests are specified—nitrate of silver, sulphate of copper, and *per*sulphate of iron. Nitrate of silver yields with hydrocyanic acid a curdy white precipitate, the cyanuret of silver, which is so similar to the chloride of silver, that it is distinguished from it with difficulty. On this account M. Lassaigne properly objects to its employment. In employing the second test, a few drops of sulphate of copper are mixed with hydrocyanic acid, a slight excess of pure potash is added, and the blue precipitate redissolved by the least possible excess of muriatic acid. The cyanuret of copper, formed by the action of the precipitated oxide on hydrocyanic acid, then comes into view, and subsides in flocks of a nearly white color to the bottom of the vessel. The third test is used in a nearly similar manner. The persulphate is mixed with hydrocyanic acid, the peroxide thrown down by means of a slight excess of pure potash, and the precipitate redissolved by an excess of sulphuric acid. Prussian blue then makes its appearance either instantly, or after an interval of twelve or even eighteen hours, when the hydrocyanic acid is in very minute quantity. The same tests are referred to by MM. Leuret and Lassaigne in their joint essay in the Journal de Chimie Medicale, &c. No. xii. p. 561.

The observations of M. Lassaigne, in reference to the sulphate of copper, are quite exact; but the *persulphate* of iron is not suited to the purpose for which it was proposed. The precipitated peroxide of iron, as was long since proved by Scheele and Proust, does not yield Prussian blue with hydrocyanic acid. In my experiments with a strong solution of prussic acid there was not the least trace of blue, not even after an interval of twenty-four hours. It is easy to be satisfied of this fact by operating in the following manner: To a concentrated hot solution of green vitriol add successive portions of nitric acid, until the dark, nearly black tint at first produced is converted into a red. Evaporate the solution to perfect dryness, dissolve the persulphate in water, and filter. On mixing a little of this persulphate with prussic acid and solution of pure potash, as above described, and dissolving the precipitate with sulphuric acid, the solution will present the yellow color of the salt of iron without any Prussian blue being generated.

To the formation of this pigment by means of prussic acid, the presence of protoxide of iron is requisite. The protoxide appears to act by converting the prussic into ferroprussic acid; and for this purpose a very minute quantity suffices. Accordingly, if persulphate of iron should contain a little protosulphate, it will detect the presence of prussic acid; or if in the potash or prussic acid any impurity happens to be present, such as traces of sulphuretted hydrogen, which may convert a little of the peroxide into protoxide of iron, Prussian blue would then also be produced. Prussic acid itself appears to effect this change slowly; for when the peroxide is precipitated in contact with that acid, and then redissolved, the solution, after an interval of two or three days, acquires a faint blue tint; and the same appearance takes place in twenty-four hours, if the precipitated oxide has been previously in contact for a few days with prussic acid. But these changes, though chemically interesting, are too slow and imperfect, even with strong solutions of prussic acid, to be practically useful as a test. These observations will explain how the persulphate of iron happens to have been recommended as a test of prussic acid, though in fact it is not so.

The proper test of prussic acid is the common *proto*sulphate of iron, the green vitriol of commerce. If recently prepared, the precipitate left after dissolving the excess of oxide will at first be green, and become blue after exposure for a few minutes to the air. But if the solution has been previously kept for some hours in an open vessel, so that it may contain both oxides, perfect Prussian blue will be formed at once. The protosulphate of iron, even in cases of judicial enquiry, is the only chemical reagent required. M. Lassaigne recommends sulphate of copper as a reagent twice as delicate as persulphate of iron—an opinion which is quite correct. But it is considerably less delicate than the protosulphate; and besides, the white tint of the cyanuret of copper is far less characteristic than the rare and well marked color of Prussian blue. Sulphate of copper, as a test of prussic acid, is therefore unnecessary. These remarks render it probable, that, in animals killed by prussic acid, the poison may be detected at longer periods after death than was observed in the experiments of MM. Leuret and Lassaigne.—*Ed. Med. and Surg. Journal.*

On the Detection of Poisons in the body after long interment. (Revue Medicale, Juin, 1828.)—This important subject has been investigated experimentally by professor Orfila and M. Lesueur; and it follows from their researches that many poisons both of the mineral and of the vegetable kingdom may be discovered after they have remained in contact with putrifying animal matter for several months or even years. The poisons which they have subjected to this enquiry have been the sulphuric and nitric acids, arsenic, corrosive sublimate, tartar emetic, sugar of lead, protomuriate of tin, blue vitriol, verdigris, lunar caustic, muriate of gold, acetate of morphia, muriate of brucia, acetate of strychnia, hydrocyanic acid, opium, cantharides. We shall extract from the analyses of their experiments in the journal quoted above, the leading particulars ascertained in regard to the commoner poisons.

Sulphuric acid, if in sufficient quantity, may remain in contact with organized matter for years without losing its properties so far as not to be discoverable by chemical analysis. If considerably dilute, however, and mingled for some time with a large proportion of animal matter in a state of putrefaction, it will be neutralized and converted into sulphate of ammonia. If there is any free sulphuric acid, its presence may be proved, according to Orfila and Lesueur, by treating the filtered fluid with pure carbonate of lime without heat; in a few seconds sulphate of lime will be formed.

If there is no free sulphuric acid, sulphate of lime will not be formed although sulphate of ammonia be present, unless the action be allowed to go on for a considerable time.

Nitric acid in like manner may be recognized several months after being mixed with animal matters, if its state of concentration was considerable. Its presence will be proved by neutralizing with potass, evaporating to dryness, and trying whether the residue deflagrates on burning fuel. If the acid has been much diluted and in small proportion to the animal matter with which it is mixed, it will be converted into the nitrate of ammonia; in which case poisoning with nitric acid cannot be inferred positively, as that salt may be formed entirely by the process of putrefaction.

Oxide of arsenic may be detected after remaining several years in contact with a large proportion of animal matter. It is likely, however, that in the course of their decay it may be united with ammonia, and being thus rendered more soluble will filter away with the moisture which percolates the soil of the grave. Nevertheless, the contrary seems to be the general fact. The process recommended by Orfila is a simple one, namely, to evaporate to dryness the fluid procured by filtering or boiling the suspected matter, to agitate the residue in boiling water, and to act on the solution with sulphuretted hydrogen after the addition of a few drops of muriatic acid. We entertain considerable doubt whether this process is applicable to all mixtures—even to the ordinary contents of the stomach after death from poisoning with arsenic. We have certainly found that, in such mixtures, acidulated as Orfila directs, the sulphuretted hydrogen sometimes causes a precipitate of so pale a yellow tint that it could not be recognized as the sulphuret of arsenic. At all events, this single precipitation is not satisfactory evidence, as Orfila and Lesueur allow the reader to suppose. The yellow precipitate ought to be collected and reduced to the metallic state.

Corrosive sublimate in the course of a few days will no longer exist as such in a mixture containing much animal matter; as it is rapidly decomposed. But the mercury which formed a part of it may be detected in the solid matter of the mixture after many years, as the new mercurial compound formed is very insoluble. The process recommended by Orfila and Lesueur consists in boiling the mixture with caustic potass and procuring from it metallic mercury. We are satisfied from frequent trials that this method will be found totally insufficient when the proportion of mercury is small; for the protoxide, which is formed by the action of the potass on the mercurial compound, will, when minute in proportion, remain so intimately suspended if not dissolved in the mass as to be inseparable by any liquid method of analysis we have hitherto been able to employ. We expect to be able to announce a more convenient process.

The *tartrate of potass and antimony*, without the presence of organic matter, undergoes decomposition if simply dissolved in even pure water; so that in a solution of three grains in twenty-four ounces, no antimony will be found dissolved after thirty or forty days. In mixtures containing animal matter, the salt is decomposed much more rapidly. The antimony may be discovered after many months, "by treating the mixture with the reagents in ordinary use." The process described by Dr. Turner, in volume xxviii. of this Journal, we have repeatedly applied to various mixtures, and found it invariably to succeed. It is far superior to Orfila's method.

The *acetate of lead*, if dissolved in water and mixed with animal matter, is so thoroughly decomposed in a few days, that no lead will be found in solution. But it may be detected in the solid matter by drying it, and calcining it at a red heat.

The *sulphate of copper* is similarly circumstanced. The best mode of separating the copper is to clear the residue of evaporation, and act on it with nitric acid.

Verdigris "by remaining long in the earth is decomposed, and the peroxide of copper unites with the fatty matters of the body to form a soapy compound insoluble in water." This is rather a loose way of expressing the nature of the decomposition; for, in point of fact, a solution of verdigris is decomposed by many soluble animal principles. To detect the copper, Orfila recommends the addition of hydrochloric acid, which dissolves out the oxide.

Acetate of morphia may be detected in the body several months after death. It is decomposed, however, even without the presence of animal matter, provided it is exposed in a state of solution to the air. In order to discover it, the solid matters are to be treated with alcohol, the alcoholic solutions evaporated to dryness, and the residue acted on by water, acidulated with acetic acid. If the liquor thus procured requires to be decolorized, this is best done by boiling it with purified animal charcoal. When concentrated, it will be turned blue by permuriate of iron, and the residue of its evaporation will be turned orange red by nitric acid. These tests may justify an inference in favor of the *probability* of poisoning with morphia or its acetate; but in order to establish it on *certain* evidence, the morphia itself must be separated in a crystalline form by the action of potass or ammonia on its solution, and that of alcohol on the precipitate so formed; and the crystals must be insoluble in water or ether, fusible at a low heat, and must concrete on cooling into a radiated crystalline mass.

Opium, though not liable to be altered, is not so easily detected after long interment as morphia or its salts. Orfila and Lesueur have not entered fully into the cause of the difficulty. But we may state from our own researches, that when mixed with organized matters, the analysis becomes difficult in all circumstances, as the proportion of morphia, (to which ingredient alone the attention can be safely directed for procuring positive evidence,) is too small, considering the complication introduced into the process by the coexistence of much animal or even vegetable matter. The presence of meconic acid we have found more easily susceptible of proof; but we doubt whether this can be accounted absolute evidence of the presence of opium.

Cantharides was detected by our authors nine months after interment, although the intestine in which it was placed had been converted into adipocire. Here and there, amid this matter, the naked eye could perceive brilliant green points. When the whole mass was thrown into boiling water, the adipocire melted and rose to the surface, while the green particles sunk to the bottom, and being thus collected, were easily found to possess all the characters of cantharides powder.

It follows from all these enquiries, that many poisons, not only of the mineral, but likewise of the vegetable and animal kingdoms, may be found in the body long after interment—that some difficulty, indeed, may be encountered in procuring satisfactory evidence of their existence; but that this difficulty is not always materially increased by the decay which the body has undergone, the same difficulty being caused by simple and recent mixture with the common solids and fluids of the body.

Remarkable Symptoms produced by poisoning with Belladonna. (Nouvelle Bibliotheque, Juillet, 1828.) A gentleman who had been accustomed to take occasionally a purgative mixture, containing forty-six grains of jalap, sent to his apothecary, instead of his physician's French recipe, a translation of it by himself into Latin, in which he had used the word Belladonna as the proper equivalent for the French name of jalap, *Belle-de-nuit.* The mixture was faithfully prepared according to the formula, and taken by the patient about six in the morning. The first effect was most violent headache, commencing about an hour afterwards, affecting chiefly the orbits, and accompanied ere long with excessive redness of the eyes, face, and subsequently of the whole body. In a few minutes the whole skin presented a uniform redness, exactly like that of scarlatina. The patient was also affected at the same time with intense redness of the throat, and great heat, which seemed to spread throughout the whole alimentary canal. Another symptom no less remarkable was an extremely painful irritation of the whole urinary passages, and especially of the neck of the bladder; in consequence of which, the patient, amid a continual talkative delirium, that always bore reference to the suffering he experienced in that quarter, was constantly demanding the chamber pot, yet each time succeeded in passing with difficulty only a few deep red sanguinolent drops. The physician who was summoned to his assistance at ten, after discovering the error which had been committed, immediately directed a copious bloodletting, emulsive drinks, and emolient fomentations of the whole belly. The pain in the region of the bladder nevertheless continued without abatement; and the patient, fatigued by his suffering and the fruitless efforts he constantly made to pass urine, insisted that the catheter should be introduced, although he was assured that his complaint was a suppression, and not a retention, of urine. In fact, during the physician's absence, he actually sent for a surgeon and had the operation performed, but of course without receiving any benefit: a few drops only of bloody urine were withdrawn. Twenty leeches were subsequently applied to the hypogastrium; and from this treatment he experienced much relief in the course of a few hours. He passed a quiet night, and next morning complained only of a general feeling of discomfort. M. Jolly, the relater of this case, states that he has repeatedly seen the powder and extract of belladonna cause a similar scarlet efflorescence; and puts the question whether its tendency thus to induce an affection of the skin and throat parallel to that caused by scarlatina will not account for the property lately ascribed to it, especially by some German physicians, of protecting the system from the infection of that disease.

MATERIA MEDICA.

Action of Colchicum on the Urine.—Professor Chelius, of Heidelberg, has been making a number of experiments on the urine of those who take colchicum for different complaints, and has discovered a very curious and uniform effect to result from this powerful medicine—namely, a great increase of uric acid in the urine—and, consequently, a great evacuation of it from the system at large. Thus a man, who had rheumatic inflammation and swelling of several joints, was put upon the use of colchicum, his urine being first examined, and found to contain 0,069 of uric acid, free or combined with ammonia. In four days after the colchicum was commenced, and that in moderate doses, it rose from sixty-nine to seventy-six. On the eighth day it was ninety-one, and on the twelfth day it was 102. In short, in the course of a fortnight, the quantity of uric acid was doubled. Experiments were made on a great number of individuals, chiefly laboring under gouty, rheumatic, and neuralgic affections, and all with the same result—a great increase of the uric acid. Professor Chelius thinks, that this operation of the colchicum may lead to some elucidation of the specific efficacy of the medicine in various diseases, and perhaps may throw some light on the nature of those diseases themselves. The professor appears to employ the colchicum, with great success, in neuralgiæ of the face, in sciatica, rheumatic ophthalmia, dropsy of the joints, and in certain paralytic affections of the lower extremities connected with the arthritic diathesis. We would recommend the medical practitioners of this country to note the effects of colchicum on the urine; as the increase of uric acid may lead to the useful employment of this remedy in some diseases to which it is not now applied.—*Medico Chirurg. Review.*

Watery Extract of Aloes.—Mr. Battley has made some simple experiment on the aloes vulgaris, or Barbadoes aloes, by which it appears that the cold watery solution, evaporated to the consistence of an extract, contains all the valuable part of the medicine, divested of its acrid or drastic principles. The following is the process employed:

"I. Two pounds avoirdupois, or 2 lbs. 4 oz. 2 drs. 48 grs. apothecaries' weight, of the extract of aloes, in the state in which it is imported from Barbadoes, imparted to cold distilled water 1 lb. 9 oz. 1 dr. 42 grs. The solution was of a fine yellowbrown color; its taste intensely bitter, yet free from the flavor peculiar to this species of aloe.

"II. The residuum of I. imparted to hot distilled water 2 oz. 15 grs., leaving 4 oz. 2 drs. 15 grs. of undissolved matter. The solution was darker than I., inclining to purple, less intensely bitter, but having the peculiar flavor of the aloe vulgaris.

"III. The residuum of II. imparted to alcohol 3 oz. 4. drs. 48 grs., leaving 5 drs. 27 grs. insoluble in this menstruum. The tincture was of a deep brown color, bitter, and very offensive both to the taste and smell.

"IV. The residuum of III. imparted to one part of liquor potassæ, diluted with seven parts of water, 4 drs. 48 grs., leaving V. 79 grs. of a dark earthy appearance, deprived of all aloetic properties, and void of any qualities that the taste or smell could detect. Even the alkaline solution IV. of a deep heavy brown color, was so slightly aloetic as to be nearly insipid and inodorous.

"In I., or the cold solution of the aloe, again reduced to an extract, the profession will find at its disposal a valuable medicine; but the results II., III., will probably be found to be too drastic, and IV., V., absolutely inert."—*Journal of Morbid Anatomy.*

Mercurial Pediluvium in Syphilis.—Dr. Verducci substitutes a foot bath of corrosive sublimate, instead of the common method of administering mercury, in syphilis. He dissolves forty-eight grains of corrosive sublimate in a mixture of an ounce of alcohol and a pound of distilled water. A fifth or sixth of this solution is added to a sufficient quantity of tepid water in a proper vessel for bathing the feet. Warm water should be occasionally added during the bathing, to keep up a proper and agreeable temperature, and the feet should be continued in the bath half an hour at a time. A bad case is mentioned, which was cured after a trial of the foot bath ten or twelve days. How often the pediluvium is to be repeated is not stated, but we presume it is once in twenty-four hours, at bedtime.

Prussiate of Iron in Intermittent.—Dr. Hollikoster prefers this article to sulphate of quinine or cinchona in intermittents. He gives three times a day, a powder composed of hydrocyanite of iron and sugar, eighteen grains each. He administers it either during the exascerbation, or the apyrexia, and says it answers well in either case, and does not oppress the stomach. Smaller doses often answer, and relapses are not so common as after cinchona.

DOMESTIC.

Endermic Method of treating Diseases, by exciting their absorption by the skin.—As the internal use of medicines often meets with serious obstacles, the enquiry naturally has been made, by what other means their introduction can be effected. Hence the iatroleptical methods, and the endeavors already put in practice to render them useful.

Nevertheless, the epidermis, almost an inert envelop placed on the confines of life, paralyzed the best intended combinations. The idea of removing that inorganic covering, in order to impart to the surfaces a greater power of absorption, was as happy as it was bold.

Some few scattered facts had given rise to the suspicion that absorption acquires an increased degree of energy, when the general envelop of the body was divested of its epidermis. Experimental physiology subsequently confirmed and corroborated these incipient observations, thereby opening a new field to the physician. The introduction of poison in recent wounds of living animals, the insertion of active substances in the laminous tissues—injections in the serous cavities, in the vessels, in the parenchyma, indicated the great resources these interesting results would one day offer to therapeutics.

But as the facts which evinced the power of substances applied to denuded surfaces, were too scattered to present a collective and methodical view, it became necessary to collect them and arrange them into some system. This M. Lambert carried into execution at Paris, in 1815, first, at the Salpetriere, but principally at the Hospital Cochin, under the auspices of his colleague, M. Bertin. Since that epoch, I have pursued, on a larger scale, these very interesting enquiries, and am already enabled to bring, in support of this method, many hundred observations collected from the hospital de la Pitie, and that of Cochin, during my practice in both these hospitals.

I will now give a summary of the most striking effects of a small number of substances. The salts of morphine promptly manifest their influence on the encephalon and the nervous system; the pupils contract, and the eyes become shining. We have observed the presence of dysury, and, sometimes, of ischury; qualms and vomitings are uncommon; a prurient sensation becomes very troublesome—it even affects the nasal ducts; and it is not an uncommon thing to see numerous papulæ spreading over a considerable portion of the skin; with respect to the therapeutical success of this remedy, it is effective, for instance, in rheumatical neuralgies; they afford a sensible alleviation by each successive application.

In spreading the extract of the belladonna on the dorsal surface of the feet, I have produced all the known effects that follow its internal administration, such as the extreme dilatation of the pupils, and the diminution of the optical faculty.

The extract of squill, besides promoting perspiration, does also assist urinary secretions and greatly facilitate expectoration.

Pulverized strychnine evidently keeps up the suppuration of wounds. It reaches the locomotive system without much exciting encephalic perturbation; it even happens that, in certain cases of palsy, such as are caused by subcarbonate of lead, motion is restored by it, unaccompanied with convulsive fits. But when, in other cases, these fits are perceivable, it is generally at night, in the same manner as when the strychnine is taken internally. I have generally remarked that either the internal or external application of this medicine will produce manifest turgescence in the head, with a vivid flush of the face, which demand either the suspension of the remedy or the arrest of its powerful effects by means of sanguineous depletion.

The deutochloride of mercury possesses the seriously inconvenient quality of producing a smart burn, and afterwards corroding and causing mortification in the parts it comes in contact with—and yet we have known it to remove osteocopal pains as well as exostosis.

The protochloride excites also some pain—above all, when rubbed on vesicated surfaces. I have cured with it old syphilitic affections.

There are, however, many difficulties proportionately great as the advantages resulting from this auxiliary method; the most serious, as well as the most incommoding, are those of keeping sores open. In other respects it is notorious that these medicamental substances do not undergo any alteration the degree of which cannot be well known. Their effects are always distinct, having the property of sparing the digestive organs from unusual stimulation.

The use of the greatest part of these substances may be prolonged with safety; they neither alter nor disorganize but a limited and superficial part of the skin, and should its continued application bear too hard on any particular surface, nothing is easier than the preparation of another.

Finally, this method is the only practicable one in cases where convulsions render it impracticable to administer medicine through the alimentary canal, as is the case in hydrophobia and tetanus, or when the stomach revolts against offensive potions. F. O. D.

Smallpox.—Dr. Stephen Brown, of this city, has lately obtained a prize for the best dissertation on smallpox, varioloid, and vaccination, submitted to a committee of the New Jersey Medical Society, consisting of Drs. Augs. R. Taylor, Gilbert S. Woodhull, and William Van Deursen. The dissertation is a very valuable and interesting production, and occupies forty-four pages of the Medical Recorder. We have only room for the final conclusions at which the author, after much research, has arrived.

" From the facts and reasonings herein contained, we come to the following *conclusions:*

" 1st. That the smallpox is a disease of very ancient date, and had its origin in the *east.*

" 2d. That the character of this terrible disease, in its unmodified state, has undergone no change, since its description by Rhazes, from time immemorial.

" 3d. That the successful mode of treating the smallpox, during the pustular stage, by puncturing the unripe pustules, as practised from the earliest times by the *Brahmins,* was never adopted by European practitioners.

" 4th. That the varioloid is a modification of the smallpox, and excited in the system of those persons who have received but a *partial impression* from vaccination, by the influence of variolous poison.

"5th. That those persons laboring under the varioloid will communicate the genuine, unmodified smallpox, to those who have no protection either by previous smallpox or by vaccination; and that it is capable of exciting the varioloid in persons who have received but a *partial impression* from vaccination.

"6th. That the smallpox virus is capable of affecting the inferior animals, especially during those *epidemic periods*, when *atmospheric causes* give a more virulent character to the disease and occasion a more rapid and general extension of its poison.

"7th. That in some (at least) of the feathered tribes, it puts on a more severe and fatal character than in man, and that in quadrupeds a much milder form.

"8th. That the *kinepox* in the *cow*, and the *grease* in the *horse*, are diseases produced in these animals, originally, by the operation of the variolous poison through their systems, and that both impart their respective diseases to the human subject, and that each proves *equally* effectual in protecting the system against the smallpox.

"9th. That the modifying effect which the smallpox virus receives in passing through the system of these animals, appears to be permanent; as no change in its mild character is perceptible, after a successive operation through the human system for more than thirty years.

"10th. That the kinepox has proved a complete preventive of the smallpox, in the majority of cases, where vaccination has been performed by regular practitioners, even in the ordinary way of vaccinating in all seasons, and with lymph obtained by disturbing the regular progress of the vaccine vesicle, which may be regarded as a dangerous interference with vaccination.

"11th. That those cases where smallpox has supervened to vaccination, have, in the great majority of cases, been a very mild disease, and seldom, if ever, death has occurred under its influence; and had we no means of lessening this comparative number of susceptible cases, it could afford not a shadow of an argument against the practice of vaccination.

"12th. But we aver, that these cases can be diminished even to an insignificant number, by attending properly to their true causes, *two* of which, viz. the *laceration* of the *vesicle*, and the *phlegmatic habit*, have, heretofore, been entirely overlooked, therefore,

"13th. The dry crusts should always be employed for the purposes of vaccination, and great caution enjoined that the vesicle be not lacerated in its forming stage.

"14th. The months of *November* and *December* present the finest season for vaccinating; and the summer months should be avoided.

"15th. All children of phlegmatic parents, and all persons of the phlegmatic habit, particularly, should be *re*vaccinated or have a *second insertion*, agreeable to the method proposed by Mr. Bryce, and *repeated*, until a full impression be made upon the system; and if it be necessary, at any time, to take lymph from the vesicle to vaccinate others, as when exposed to the smallpox, a second insertion should be made in the opposite arm.

A New Article of the Materia Medica.—There is a species of *chiococca*, a Brazilian plant, which is called *anguisfuga*, from its reputed virtue against the bites of venomous serpents. The root is the part in which the remedial quality chiefly resides. The specimen lately brought to Dr. Mitchell by Benjamin R. Leach, Esq., from Rio Janeiro, was accompanied by a medical memorandum to the following effect. It may be taken into the stomach to the amount of an ounce at a dose, in decoction. It possesses laxative powers, and in an eminent degree the properties of the lymphatic solvents of Darwin. It may of course be classed with the most efficacious of the hydragogues. Some physicians are in the practice of prescribing it in cases of dropsical swellings, old ulcers of the legs, syphylitic and scrophulous diseases, and chronical disorders of the lymphatic system ; in all which it is considered an excellent medicine. The ordinary price of the dried root was, and even now is, in Rio, $16 per arra. But it is understood that the European price is not fixed on a mercantile scale. According to Mr. Langdorff, it has been sold in London, as an almost miraculous remedy, at an extremely high price. The opinion of the Brazilian informant is, that after a regular reception into the pharmacopœias, it ought to enter into commerce and the shops, like jalap, ipecacuanha, sarsaparilla, and the other heroic drugs.

It goes by several Portuguese names, such as *caimca*, *rais preta*, *cipo cruz*, and *cruzadventia*, and is different from the species enumerated in *Persoon's Synopsis.* S. L. M.

On the Efficacy of Nitrate of Silver, applied to Aphthæ of the Mouth, in a letter to Dr. A. H. Stevens, *Professor of Surgery in the University of the State of New York.*

Sir,—I had the pleasure of being present at your lecture on Friday, 14th inst. Among a variety of interesting remarks you then made, were several in relation to the use of *lunar caustic* in aphthous affections of the mouth: ascribing, however, the first use of the article to a French gentleman. Without laying claim to much originality in medical practice, I take this opportunity to state my own experience with the nitrate of silver in the disease above mentioned.

About four years ago I had under my care a case of cholera infantum, which yielded, in part, to medicinal agents. The child became, however, very weak and reduced. Aphthæ of the mouth and throat made their appearance, and finally covered the inside of the mouth and tongue, and obstructed the throat so that it became impossible to get down either nourishment or medicine.

Under these circumstances I had recourse to a strong solution of *lunar caustic.* It is sufficient to state that an immediate alteration for the better was perceived. In twenty-four hours the crust was entirely removed. Flakes as large as a shilling in three or four hours became loose, and were picked out by the child. A very thin crust appeared after the first was removed, in distinct patches; but they were removed in three or four days, and the child very soon wanted food; and what was singular, it ate with the greatest avidity *cucumbers*, *pickles*, &c., and apparently with benefit, or, at least, without injury. As the recovery went on rapidly, considering the extreme prostration of the system, no precaution was taken to prevent the solution from getting into the stomach; on the contrary, it was rather to be desired than otherwise.

Another interesting case was treated by me last spring in the same manner, and with equal benefit. It was an infant about a week old, extremely weak and feeble; so much so that it was unable to draw the breast. Astringent and other applications were first used, as alum, borax, goldthread, pyrola, &c. Laxatives, as magnesia, castor oil, and even calomel and rhubarb, were administered, but the aphthæ increased daily, until I resorted to the use of a strong solution of nitrate of silver. By this article the crust was removed, leaving the surface beneath of a florid red, and in some places slightly ulcerated, or rather in a state that is termed a *raw surface.*

This article seems to be superior to every other, for two reasons, 1st, the rapidity with which it removes the aphthæ; 2d, its altering the action of the surface to which it is applied. The above mode of practice is my own. I was led to adopt it from having seen, repeatedly, its good effects in indolent ulcers of the legs, and in some cases of inflammation of the eye. It is likewise my whole dependence in a peculiar *ulcer of the nipple*, which has a resemblance to aphthæ of the mouth. To conclude, I remark that there are four surfaces to which lunar caustic may be applied, viz. the surface of the eye, the mouth and fauces, the nipple, and the glans penis. I think I am warranted in making this conclusion, from my experience of the article in question, and from a similarity of structure which I think exists in these parts.

Yours, sir, with the highest esteem,

E. EMMONS.

Two Cases of Ascaris Lumbricoides, attended with Abscesses, followed by large Purulent Discharges, and Worms therein. By CORNELIUS C. BLATCHLY.

Case 1. The first case I had of this kind is recorded as follows: I was called on the 4th of April, 1798, to visit Tristam Hull's girl, at Mendham, [but now Randolph,] in Morris county, N. J. Found her with pain in the abdomen, strong pulse, and fever. Bled and gave her a large cathartic. Next day, prescribed febrifuge vermifuges. Bled her again on the 6th, pulse being still full, with some pain in the abdomen; continued the febrifuges and calomel, and applied an epispastic on the abdomen. 7th, gave a large dose of calomel and one ounce of pinkroot, and an antimonial febrifuge. Next day, a few worms were evacuated. Continued the calomel in nitrous powders; for the pain and fever continued still. No vomiting.

About this time I was confined by a cut across the top of my foot, and did not visit her till the 19th. At this date she discharged from an opening at the umbilicus, about a quart of pus, and a few worms. No tumor had been noticed before that time. Prescribed poultices and a cathartic. 22d, Febrifuges with ipecac. 24th, Fever disappeared, and cinchona was prescribed. From this date she convalesced daily.

Case 2. The other case happened at the commencement of the year 1829.

Robert Hazelem was confined with rheumatism and fever. He was brought from the eastern side of the city of New York to the western, and lodged at No. 46 Hammond street, with William Banks, a shoemaker, where I attended him during the first month, called January. The rheumatism affected his legs and thighs principally; but he complained also greatly of a pain in his right hip and groin. At length I discovered a tumor a little above his groin, on the abdomen, on opening which it discharged copiously a fœtid pus. The discharge continued many days, and had the odor of fæces; and three worms, about twelve inches, probably, a little decayed and flattened, were discharged, to the great alarm, in the first instance, of the patient and his friends, who mistook the worm for his intestine, and thought the gut was coming out. The fœtor was very offensive. He was greatly reduced; but has recovered by the assistance of ale, cinchona, and syringing the ulcer with tincture of myrrh and aloes.

I had no suspicion, in either case, of a concealed strangulated hernia. This also was without vomiting.

Spontaneous Cure of Aneurism.—Dr. J. K. Rodgers, one of the physicians of the New York Hospital, has favored us with the following interesting statement, and promised us a more detailed one for our next number:

A man, aged 29 years, was admitted into the New York Hospital, May 15th, 1829, with an aneurism of the popliteal artery the size of a small orange. That day and the following, pulsation was very apparent in the tumor. Pressure on the vessel above caused the swelling to diminish, but its size was instantly regained on receiving the force of the circulation. On the 18th I could feel no pulsation and the patient was free from pain. The anterior tibial of that side beats very feebly. There can be but little doubt that the rare process of spontaneous cure is going on.

The Patent Thomsonian Practice of Physic.—The above dignified title is used to designate the administration of certain vegetable preparations, and the employment of the steam bath, in the cure of a number of disorders. To these medicines, and the mode of administering them, an exclusive privilege is claimed, under a patent from the United States. Several instances have been narrated in the public papers, of the fatal effects of this practice, while those interested in its favor, assert that these accounts have been falsely represented by the medical faculty, who, they aver, have risen in arms against it, because it is destroying their practice. The support of a number of intelligent and disinterested persons, has given currency to the claims of these Thomsonian practitioners; and, under this sanction, their business has become very extensive, particularly in some of the western states. Without intending to express an opinion upon the subject, we will observe that it is the fate of every popular medicine, to obtain the kind of support which the practice in question has received. Such preparations are usually active, and, when properly administered, they are beneficial; their indiscriminate employment, therefore, will ensure their occasional usefulness. Whenever they are successful, the cured, and their friends, naturally enongh, praise the medicine; while the patient, the disease, or the physician, bears the blame, when their effects are injurious.

Numerous applications have been recently made for copies of Mr. Thomson's specifications, as questions have arisen which will call the merits of the practice, and of the practitioners, before a court and jury. Under these circumstances, we think that the publication of both the patents which have been obtained by Mr. Thomson, may subserve the cause of science, and of humanity. The first patent expired on the 2d of March, 1827, the second having been issued upwards of four years before the termination of the period of the first. In some parts they appear to be identical, as in No. 2, in both specifications, and in other parts also. Under these circumstances, the question may arise, whether the claim under the second patent is not, in fact, an attempt to prolong the first, as it does not specify the particular improvement claimed, but appears, broadly, to include the whole practice recommended.—*Journal of the Franklin Institute.*

Specification of a Patent granted for " *Fever Medicine,*" *to* SAMUEL THOMSON, *of Surrey, county of Cheshire, New Hampshire, March* 2, 1813.

A SPECIFICATION for preparing and using certain medicines in fevers, colics, dysenteries, and rheumatisms.

No. 1. The emetic herb, or lowbela (lobelia?) medica, a plant that grows about twelve or fifteen inches high, with leaves of the size of mint leaves, bearing a pod the size of a white bean, of a sharp taste, like that of tobacco, creating nausea. It must be gathered when the leaves and pods are a little yellow; dried, pounded fine, and sifted, when it forms a powerful emetic. Dose, in powder, from four to twelve grains, with or without an equal quantity of No. 2.

No. 2. Cayenne, or red pepper, pulverized.

No. 3. Marsh rosemary, two parts, the bark of bayberry, or candleberry (the myrtle from which wax is obtained from the berry) roots, one part, pulverized, or sumach bark, leaves, or berries, or raspberry leaves, may be substituted. A tea made with one ounce of the above powder (No. 3) in a pint of boiling water. Dose, a wine glassful, occasionally, sweetened.

No. 4. Bitters for correcting the bile; take the bitter herb, or *balmony*, barberry bark, and poplar bark, equal parts, pulverized. One ounce to half a pound of wine, or spirit, and hot water. Dose, half a wine glassful, and for hot bitters, add half a drachm to the ounce.

No. 5. A sirop. Take one ounce of peach kernels, or cherry stones; half an ounce of gum myrrh, made fine; add three half pints of hot water, two ounces of white sugar, half a pint of brandy. Half a wine glassful to be used three times a day.

Rheumatic drops. Take one gallon high wines, one pound gum myrrh, put into a stone jug, and boil it in a kettle of water for half an hour; when settled, pour it off; add four ounces camphor, half an ounce of cayenne pepper in powder, one quart of spirits of turpentine, then bottle it, and it is prepared for bathing in rheumatisms, any swellings, or external pains.

No. 1, is used to cleanse the stomach, overpower the cold, and promote a free perspiration. No. 2, to raise the inward heat. No. 3, to scour the stomach, promote perspiration, and repel the cold. No. 4, to correct the bile, and quicken the appetite. No. 5, to strengthen the stomach, and restore the digestive powers, after cases of dysentery, or other weakening disorders. The three first numbers may be used in any other case, to promote perspiration, or as an emetic. SAMUEL THOMSON.

Specification of a Patent granted for a mode of preparing, mixing, compounding, administering, and using, the medicine therein described, to Samuel Thomson, *of Boston, Suffolk county, Massachusetts, January* 28, 1823.

Firstly. The mode of preparing and compounding medicine for an emetic, to be administered in diseases caused by cold and obstructed perspiration, such as fevers, colic, rheumatism, dysentery, asthma, numb palsy, dropsy, and consumption, and various others.

Take the emetic herb *lobelia inflata* of Linnæus, dry the pods and leaves, or the leaves only, and reduce them to a fine powder in a mortar; sift and keep it from the air; for a dose take from ten to twenty grains, steeped in warm water, sweetened. This emetic is called by the patentee, *number one*, in his system of practice in medicine.

The emetic herb, or *lobelia*, above mentioned, is a biennial plant, grows about twelve or fifteen inches high, with leaves of the size of mint leaves, and pods about the size of a white bean, containing very small seeds; is of a sharp taste, like tobacco, exciting the glands of the throat, and producing nausea. It should be gathered when the leaves and pods are turned a little yellow, but is good in any stage of its growth; when perfectly dry, the seeds should be shaken from the pods, and preserved separate.

Another mode of preparing the emetic, *number one*, from this herb, is as follows, to wit: take the green herb, pound it in a mortar, and put it in an equal quantity of spirit; after being well steeped, strain off the liquor, and keep it, close stopped, in a bottle for use. Prepared in this manner, and adding *cayenne*, as hereinafter mentioned in *number two*, two drachms to a pint of the liquor. Dose, one tea spoonful. This is an effectual remedy in removing the effects caused by poison, either taken internally, or by bathing the part affected. The seeds of this plant are more powerful than the leaves, and one half the quantity pounded fine, and steeped as above described, is of sufficient power for an emetic.

Secondly. To retain the internal vital heat of the system, and cause a free perspiration. Take cayenne, *(capsicum,)* or red pepper, ground fine; dose, from ten to twenty grains, in hot water, sweetened, or to be combined with the other medicine hereinafter described. This is called by the patentee, *number two.*

Thirdly. To scour the stomach and bowels, and remove the canker. Take bayberry, or candleberry, *(myrica cerifera, L.,)* (the myrtle from which wax is obtained from the berries,) the bark of the root dried and pulverized; the inner bark of the hemlock tree *(pinus canadensis, L.)* pulverized, equal parts of each, steep one ounce of the powder in a pint of boiling water, and give, for a dose, a common wine glassful, sweetened.

When the above cannot be had, take, as a substitute, red sumach bark, leaves, or berries, *(rhus glabrum, L.,)* red raspberries, *(rubus streorsus of Michaux,)* or witch hazel leaves, *(hamamelis virginica, L.,)* marsh rosemary, *(statice lemonium, L.,)* and white pond lily roots, *(nymphæa odorata Ait,)* or either of them: let them be dried, pounded, and steeped, as above mentioned. This is called by the patentee, *number three.*

When the violence of the disease requires a course of medicine, take an ounce of the foregoing medicine, *number three*, steeped in a pint of hot water, strain off a wine glassful when hot, and add ten or twenty grains of *number two*, and one tea spoonful of sugar; when cool enough to be taken, add from ten to twenty grains of *number one*, and an equal quantity of *nerve powder*, hereafter described, to quiet the nerves. Let this compound be administered three times, at intervals of fifteen minutes, and let the same compound be given by injection once, and, if the case requires it, again repeated.

When mortification is apprehended, a tea spoonful of medicine, *number six*, as hereinafter described, may be added to each dose, and, also, to the injection. After the patient has recovered sufficiently from these applications, which is usually within two or three hours, let the mode of raising perspiration by steam, as hereinafter described, be applied.

Fourthly. To make bitters for correcting the bile.

Take the bitter herb, *(balmony,)* barberry bark *(barberis vulgaris, L.,)* and poplar bark, *(populus trepida,)* in equal parts, pulverized. One ounce to a pint of hot water, and half a pint of spirit. For a dose, take half a wine glassful; for hot bitters, add a tea spoonful of *number two:* this is called by the patentee, *number four.*
strengthen weak patients.

Fifthly. To make a sirop for dysentery, to promote digestion, and

Take poplar bark, the bark of the root of the bayberry, each one pound, boil them in two gallons of water, strain it off, and add seven pounds of good sugar, then scald and skim it, and add half a pound of peach meats, or cherry stone meats, pounded fine; when cool, add a gallon of good brandy. Bottle it up, and keep it for use. Take half a wine glassful two or three times a day. This is called by the patentee, *number five.*

Sixthly. To make rheumatic drops, to be used to remove pain, and to prevent mortification, given inwardly, or to be added to the injections, or to be applied externally.

Take one gallon of any kind of high wines, one pound of gum myrrh, one ounce of cayenne, *number two*, put into a stone jug, the jug being unstopped; boil it a few minutes in a kettle of water; when settled, bottle it up for use. Or it may be prepared without boiling, by letting it stand for five or six days, shaking it well every day, when it will be fit for use.

For bathing, in rheumatism, itch, or other humors, or in angry swelling or external pain, add one quarter pint of spirits of turpentine. One or two tea spoonsful of these drops, without the spirits of turpentine, may be given alone, and, also, may be used to bathe with; or, one tea spoonful may be added to a dose of either of the medicines before mentioned. This is called by the patentee, *number six.*

In the earlier stages, and in less violent attacks of disease, a composition or vegetable powder may be administered, prepared as follows, to wit: take two pounds of the bark of the root of bayberry, one pound of the inner bark of the hemlock tree, one pound of ginger, two ounces of cayenne, *number two*, two ounces of cloves, all pounded fine, sifted through a fine sieve, and well mixed together. For a dose, take one tea spoonful of this powder with a tea spoonful of sugar, in a wine glassful of boiling water, as soon as sufficiently cool, the patient being in bed, or covered with a blanket by the fire.

The medicine, *number one*, and, also, the nerve powder, hereinafter described, may be used with this compound, and will be proper in more violent cases.

In all cases of symptoms of nervous affection, a nerve powder must be used, which is prepared as follows, to wit: take ladies slipper, *(cypripedium pubescens,)* dig the roots when done growing, wash them clean, dry and reduce them to a fine powder. For a dose, take half a tea spoonful in hot water, sweetened, or the same quantity may be given mixed with either of the other medicines, in all nervous cases.

When the above described medicine, or such part thereof as may be deemed proper to administer, shall have produced the intended effect, a copious perspiration should be produced by applying heat to the body, by the aid of steam, in the following manner, to wit: let several stones of different sizes be made hot, then put one (the smallest first) into a pan, or kettle, of hot water about half immersed; place the patient over it undressed, covered with a blanket to shield him from the cold air; change the stones as often as they grow cool, and keep the patient in this situation as long as he can conveniently bear it; then he may be rubbed all over with a cloth wet with spirits, or cold water, and either dress or go to bed.

When the patient is too weak to sit, or stand, over the steam, take three hot stones, quench them a little in water, and wrap them in several thicknesses of cloths well wet with water, place one at his feet, and one on each side, as he lies in bed, which will produce a lively steam, and with a dose of medicine, *number two*, taken inwardly, will cause a free perspiration.

The preparing and compounding the foregoing vegetable medicines, in the manner herein described, and the administering them, to cure diseases, as herein mentioned, together with the use of steam to produce perspiration, the said Samuel Thomson claims as his own invention. SAMUEL THOMSON.

QUARTERLY BIBLIOGRAPHICAL NOTICES.

Dr. Theodor. Romeyn Beck's *Professors an dem Collegium des Westlichen Districts des Staates New York. Elemente der gerichtlichen Medicin. Nach der sweiten von Dr. Dunlop, Mitgliede des Konigl. Collegiums der Wundarzte zu London, mit noten and zusatren versehenen Ausgabe aus dem Englischen ubersetzt.* Erste & Sweite Halfte. Weimar, 1827.

Among the numerous and unequivocal evidences of the very high estimation in which Dr. Beck's Elements of Jurisprudence are held by the profession in Europe, their translatian into the German language must be regarded as the most flattering and decisive indication of their true value. In no country has this interesting and varied science been prosecuted with such unabated zeal, or have so much research and learning been elicited on its several curious topics, as in Germany. From the time of Zacchias, indeed, to the present day, it has been the favorite object of study with German physicians, and their opinions of the merits of any treatise on the subject are therefore entitled to the highest weight and the most respectful consideration. Proud are we, therefore, to see them prize the performance of our learned countryman so highly as to deem it worthy of transfusion into their vernacular tongue. In his native language his work is as yet without a parallel.

A Practical Synopsis of Cutaneous Diseases, from the most celebrated Authors, and particularly from documents afforded by the Clinical Lectures of Dr. Biett, *Physician to the Hospital of St. Louis, Paris.* By A. Cazenave, M. D., &c., and H. E. Schedel, M. D., &c. Translated from the French, with Notes. Philadelphia. Carey, Lea, & Carey. 1829. 8vo. pp. 400.

A very useful and comprehensive compend, which we cheerfully recommend as a guide in the diagnosis and treatment of a complicated and frequently annoying class of diseases. We shall notice this work further.

Description of the Distinct, Confluent, and Inoculated Smallpox, Varioloid Disease, Cowpox, and Chickenpox. Illustrated by thirteen colored Plates. By John D. Fisher, M. D. Boston. Wells and Lilly, 1829. Folio, pp. 73.

The engravings with which this splendid performance is enriched, are executed with great beauty and truth to nature. They are copied from paintings drawn in Paris at the bedside of the sick, by an eminent French artist, under the direction of Dr. Fisher, and exhibit the successive changes which the eruptions undergo in their progress from the commencement to the end of each exanthema. They cannot fail to strike the most inattentive observer as being admirably calculated to convey to the mind of the student an accurate and faithful representation of the several affections described in the text. They possess a richness of coloring and a freedom and boldness of outline which will commend them to the special notice of the amateur, and form a valuable accession to an elegant medical library. The cost to subscribers appears, at first view, great, but on considering the expense and labor which Dr. Fisher must have incurred, will seem no more than reasonable.

A System of Dental Surgery. In three parts. Part I. *Dental Surgery as a Science.* II. *Operative Dental Surgery.* III. *Pharmacy connected with Dental Surgery.* By Samuel Sheldon Fitch, M. D., Surgeon Dentist. New York, 1829. 8vo. pp. 578. With three plates.

An Address to Physicians, by the Executive Committee of the Board of Managers of the New York City Temperance Society. New York, 1829. 8vo. pp. 22.

In the exertions which are making in various parts of the United States to correct, and, if possible, to check altogether the evils of intemperance, physicians have taken an active and influential part. Acquainted experimentally with the numerous and destructive ravages which the immoderate use of ardent spirits inflicts upon the human constitution, rendering the body infirm, the mind imbecile, and the heart a prey to the most vicious propensities, they are especially indicated as the ministers of reform in this laudable undertaking. Indeed the medical profession may lay claim to the honor of having first sounded the alarm to the community, in the voice of one of its most eminent and popular members ; the essay of Rush entitles his memory to the earnest gratitude of his countrymen for his sensible and forcible appeal to their understandings and feelings, against the growth of a vice that threatened, even in his day, to darken the land far and wide, and render it subject to the dominion of misery, beggary, and crime.

The pamphlet immediately before us, is a judicious performance, addressed to physicians in particular ; not because the sin and danger of intemperance lie particularly at their door, but because their particular station gives them facilities for the counteraction of the evil which no other persons possess. The means of prevention alone are insisted on—in other words *total abstinence* from ardent spirits. The physical derangement consequent upon their use, the useless expenditure of money, the perversion of morals, and destruction of domestic relations, are dwelt upon and deplored in appropriate terms. The benefits attending the formation of Temperance

Societies are next exhibited, and certainly evince, as far as the details go, a decrease in the consumption of liquor. The address states that already has it diminished one half throughout New England, and one third through the United States! The indiscriminate prescription of alcohol by physicians is very justly deprecated. It is our own opinion, founded after mature reflection upon the subject, that they are wholly unnecessary in ninety-nine cases out of a hundred in which they are prescribed. It is indeed fashionable among a certain class of practitioners, and no less profitable to themselves than it is agreeable to the palates of their patients, to recommend brandy and water as a gentle tonic to the convalescent, and more especially to the dyspeptic. The practice is, however, in our opinion, either altogether unnecessary, or, it is positively injurious. If the convalescent is perfectly free from local disease, the native energies of his constitution, aided by nourishment and a suitable regimen, will suffice to the restoration of his strength; and, if his debility is maintained by disease, lurking any where in the system, ardent potations will infallibly do harm. Hence the frequent relapses with which we meet in the patients of certain eminent practitioners, who are accustomed, on all occasions, to pour in their brandy and porter, &c. To the dyspeptic, again, the use of spirituous liquors can scarcely be recommended with safety, and seldom, very seldom, with advantage. To be attended even with benefit, it should be continued for a long time, as the disease is chronic, and the danger of intemperate habits to be encountered far outweighs the physical good it can achieve. Besides, other more efficient means so obviously present themselves to fulfil the identical indication, that it is idle to defend their use in any instance. If no other consideration than this last were suggested to the physician, in favor of the exclusion of ardent spirits from his dietetics, it would in itself be all sufficient. We sincerely hope that the success of the present appeal may be commensurate with the value of the object which it has in view.

A Bibliographical Memoir of Wright Post, M. D., *late Professor of Anatomy and Physiology, and President of the College of Physicians and Surgeons in the City of New York.* Delivered as an Introductory Lecture, on the 4th of November, 1828, by Valentine Mott, M. D., Professor of Surgery in Rutgers College, New York. 1828. 8vo. pp. 32.

From this merited tribute to the memory of his lamented friend, we extract the following just observations of Dr. Mott on the success with which Dr. Post taught the arduous branch of medical science entrusted to his care.

"The station of professor and teacher of anatomy, our friend continued to fill through the various modifications which the medical school of this city has undergone, during a period of nearly forty years; and it may, perhaps, be safely asserted, that the distinction which he acquired as a teacher of anatomy has not been excelled in this country.

"For perspicuity and accuracy in unfolding the complicated structure of the human frame, he was peculiarly happy. His habits of patient and persevering attention laid the foundation of this perspicuity, so essential to the qualifications of a good instructor. We are not sensible of having ever listened, during the course of our studies, to any teacher, either in this country or in Europe, whose lessons were better calculated, than his, to furnish accurate information. His elocution, though plain and simple, was easy and natural." Pages 21–2.

The French Practice of Medicine; being a translation of L. J. Begin's Treatise on Therapeutics: with occasional notes and observations illustrative of the treatment of diseases in the climate of North America. By XAVIER TESSIER. New York. E. BLISS. 1829. 8vo. pp. 236.

From a hasty glance at the contents of this translation, we feel convinced that Dr. Tessier has done full justice to the great merits of the original. The treatise of M. Begin ranks high among physiological physicians, as an admirable expose of the doctrines of Broussais, applied to therapeutics, and we are glad that so capable a writer as Dr. Tessier undertook the task of introducing it to the notice of the medical community in this country. We are promised an elaborate review of it for a future number.

Oratio Inauguralis, quam in Academia Harvardiana, Cantabrigiæ, Novanglorum, nonis Octobribus, A. D. MDCCLXXXIII, *habuit* BENJAMIN WATERHOUSE, M. D. et Med. Theor. et prax Professor. Cantabrigia MDCCCXXIX. 4to. pp. 8.

This address, which was delivered as long since as the conclusion of the revolutionary war, appears to be now published by its venerable author, chiefly with a view to fix the era of the origin of the second school of medicine in America, viz. that of Harvard. It is short, pithy, and pertinent. One of the objects to which the author more especially called the attention of his audience, composed of the governor and first men of the commonwealth of Massachusetts, was, "the study and restoration of the mind diseased." We think that this topic would not be a very inappropriate one to the governors of certain institutions in New York. *Verbum sat sapientibus.*

MISCELLANEOUS NOTICES.

College of Physicians and Surgeons of New York.—The Annual Commencement of this College was held on Tuesday, the 7th of April, when the degree of Doctor of Medicine was conferred on the following gentlemen; they having on the day previous publicly defended their respective Inaugural Dissertations on the following subjects:

Edward L. Beadle; *Trachitis.*

Horton Bethune, A. M.; *Rheumatism.*
Charles A. Briggs; *Hydrocephalus.*
Washington Bostwick; *Bodily Pain.*
Henry Carver; *Topography and Diseases of Dutchess Co., N. Y.*
Henry Sylvester Dering; *Dysentery.*
Charles Dickinson, Jr., A. M.; *Prussic Acid.*
Lynde C. Ferris, A. M.; *Fever.*
James D. Fitch, A. B.; *Percussion and Auscultation.*
Jacob Harsen, Jr. A. B.; *Hepatitis.*
William H. Hobart, A. M.; *the Pathology of Dropsical Effusion.*
Harvey Horton; *Medical Sophistication.*
Joseph Jauncy, Jr.; *Laryngitis.*
C. O. Livingston, A. B.; *Phthisis Pulmonalis.*
George McIntosh Maclean, A. M.; *Cathartics.*
Charles O'Friel; *Apoplexy.*
Alphonso Perry; *Osteo Sarcoma.*

College of Physicians and Surgeons of the Western District, Fairfield, Herkimer County.—The Regents of the University, on Tuesday, the 4th of February, 1829, conferred the Degree of Doctor of Medicine on the following gentlemen, graduates of the College of Physicians and Surgeons of the Western District. The subjects of their Inaugural Dissertations are subjoined.

M. La Mont Bagg, of Oneida county; *Intermittent Fever.*
Josiah G. Beckwith, A. B., of Dutchess county; *Medical Education.*
A. Willard Benton, of Chenango county; *Phlegmasia Dolens.*
Henry Cady, of Hampden county, Massachusetts; *Circumstances Obscuring the Intrinsic Powers of Medicine.*
Horace B. Camp, of Madison county; *Gout.*
Orson Carey, of Erie county; *Intermittent Fever.*
Samuel H. Case, of Delaware county; *Ergot.*
Asa Christy, of Herkimer county; *Poisonous Qualities of some Species of the Genus Rhus.*
Richard Clark, of Jefferson county; *Bronchitis.*
Alonzo Cressy, of Onondaga county; *Theory and Treatment of Inflammation.*
Isaac H. Douglas, of Oneida county; *Neuralgia.*
Thomas M. Foot, A. M., of Oneida county; *Suicide.*
H. Hanford Fowler, of Connecticut; *Hypochondriasis.*
B. Franklin Green, of Onondaga county; *Duties and Qualifications of Physicians.*
George Green, of Herkimer county, Licentiate in Medicine; *Cynanche Trachealis.*
Lucian B. Hall, of Berkshire, Massachusetts; *Opium.*
Alonzo Henry, of Bennington county, Vermont; *Dyspepsia.*
Jacob Hess, of Montgomery county; *Catarrh.*
James Hunter, of Upper Canada, Licentiate in Medicine; *Strumous Diseases.*
Augustus F. Lawyer, of Scoharie county; *Syphilis.*

Peter D. Knicskern, of Albany county; *Medical Botany of the United States.*

Henry J. Munson, of Jefferson county, Licentiate in Medicine; *Hydrocephalus Internus.*

Burritt B. North, of Litchfield county, Connecticut; *Smallpox.*

Isaac Parsel, of Cayuga county, Licentiate in Medicine; *Egyptian Ophthalmia.*

Daniel Rees, of Northampton county, Pennsylvania; *Scrofula.*

Willard Slocum, of Saratoga county; *Typhus Fever.*

Parley J. Spalding, of Erie county; *Bilious Remittent Fever, as it prevailed in the western part of the State of New York in* 1828.

Philip Spencer, of Chatauque county; *Evils of Intemperance.*

Samson Stoddard, of Genesee county; *Menstruation and its Diseases.*

Justus H. Vincent, of Herkimer county; *Disentery.*

John D. Watkins, of Orange county; *Topography and Diseases of the town of Montgomery, Orange county, N. Y.*

Erastus Wallis, of Erie county, Licentiate in Medicine; *Peritonitis.*

James Wheeler, of Otsego county; *Iodine.*

Thomas J. Williams, of Otsego county; *Effects of a Sedentary Life.*

The Regents of the University conferred the honorary degree of Doctor of Medicine on the following gentlemen, nominated by the State Medical Society.

Dr. John H. Steel, of Saratoga county.
Dr. Daniel Ayres, of Montgomery county.
Dr. Henry H. Sherwood, of Jefferson county.
Dr. Joseph T. C. Hunt, of Kings county.

College of Pharmacy.—It affords us sincere pleasure to announce the establishment, in the city of New York, of a College of Pharmacy. The institution owes its origin to the continued efforts made by the Medical Society of this city and county to guard the lives of their fellow citizens against ignorant, incompetent, and, therefore, unsafe venders of medicine. These efforts proved awhile unavailing owing to a natural and, perhaps, laudable jealousy, on the part of the druggists, of foreign interference in their concerns. This jealousy, we are happy to state, was prudently removed, and the suggestions of a committee appointed by the Society were respectfully listened to. The report of this committee, drawn up by the chairman, Dr. Stearns, as well as the constitution of the College, is subjoined:

At a regular meeting of the Medical Society of the city and county of New York, Dr. Stearns submitted the following resolution:

Resolved, That a committee be appointed to enquire whether any, and if any, what measures ought to be adopted to regulate the practice of apothecaries in this city.

The above resolution was adopted, and the following committee appointed:

John Stearns, *John B. Beck*, *John Baxter*, *Daniel L. M. Peixotto*, *Ansel W. Ives*, *Joseph M. Smith*, and *F. U. Johnston.*

The preceding committee respectfully submit to the consideration of the apothecaries the following remarks.

It may be recollected by some gentlemen present, that efforts were made a few years since, by the Medical Society, to organize an association of apothecaries for the purpose of improving and regulating the preparation, composition, and sale of medicines. Averse to dictating any specific measures to a profession so respectable and numerous, the committee repeatedly invited the apothecaries to appoint their own meetings and to institute their own regulations. After persevering in these efforts for nearly a year, with every assurance, by the apothecaries, of their cooperation in carrying into effect the object proposed, but without ever making those active exertions which were necessary to ensure success, the committee at length relinquished the object, and with it every prospect of succeeding at that time. The same subject has been recently revived by the Medical Society, and a similar committee has been appointed. The Medical Society of the state, also impressed with the importance of this subject, have appointed a committee consisting of *Richard Pennel*, *Samuel Osborn*, and *John C. Cheesman*, who are united with us in the same object.

Previous to adopting any decisive measures, the committee have deemed it expedient to convene the apothecaries, and to request their cooperation with the Medical Societies, or if they prefer to act separately, to hold their own meetings, adopt their own measures, and to make the whole proceedings their own exclusive acts. Either course, provided it be efficient to attain the object, would answer the views of the committee.

But that something must now be effected, towards improving and diffusing the knowledge of pharmacy, appears to be the united opinion of the medical profession in this city, and, as far as it can be ascertained, throughout the state.

It must be well known to the apothecaries that gross errors have been repeatedly committed by some of that profession, who, either from inattention, or a want of competent knowledge themselves, or from the employment of unqualified clerks, have mistaken the prescriptions of physicians, and instead of the articles directed have put up others, which have proved injurious, and, in some instances, fatal to the patient. Complaints of this character are often made by those physicians who are in the habit of sending their prescriptions to the apothecaries. This wanton sacrifice of the health and lives of patients imposes upon every physician an imperious and solemn duty, to devise and adopt every efficient means to arrest an evil, in its consequences so serious and alarming. And we have no hesitation in believing that the apothecaries will be equally solicitous for any improvement to correct the evils complained of, and that they will contribute their efforts to diffuse among their profession a more general and competent knowledge of pharmacy and its auxiliary branches of science, which the committee consider to be the only certain method by which the evil can be radically corrected. How this science can be most effectually promoted and diffused, will constitute an important subject of enquiry. The committee, however, beg leave to suggest, that the institution of a college of apothecaries, regularly incorporated by the constituted authorities of the state, with competent powers to make all necessary rules and regulations for the future government of the profession, to appoint lecturers on the different branches of science connected therewith, and to provide all other facilities and necessary means of instruction, will afford all the advantages for improving the knowledge of apothecaries in their important duties, and thereby correct all the errors that can be desired. The supervisory power should be placed in a board of trustees, judiciously selected from our most competent and and respectable citizens. All candidates for the profession of an apothecary should be required to study, prepare, and compound medicines a certain number of years under the direction of licensed apothecaries, attend all the courses of lectures delivered by the professors of the college, submit themselves to an examination, and, if found qualified, to receive a regular license from the college. Penalties should also be imposed upon all apothecaries who continue the practical part of their profession without having complied with these requisitions.

Should these measures, however, on reflection, be deemed inexpedient, the committee will cheerfully acquiesce in any others that may be proposed, provided they are calculated to correct the evils complained of. They cannot, however, refrain from alluding to the great and important benefits which must necessarily result from the plan proposed, to the apothecaries, to the medical profession, to the literary character of our city, and, more especially, to the suffering patients. A simple reference to the high and important rank sustained by the apothecaries of London, and to the improved condition of those in Philadelphia, and, indeed, in all other places where colleges or other scientific associations are instituted, affords satisfactory evidence of their great utility; and we trust, that in view of these examples, and with a full conviction of the necessity of a great reformation, the apothecaries of New York will no longer delay the opportunity to secure to themselves all the advantages that may be derived from a scientific institution in this city, and not permit those of other cities to surpass them in any branch of their professional acquirements.

Should the proposed plan be duly patronized and meet with its merited success, and, with with other kindred institutions located in our metropolis, hold equal pace with its population, its commercial improvements, and the enterprize of our citizens, the time would not be remote when the literature and science of our country would transfer their emporium to this city.

Constitution of the College of Pharmacy, of the City and County of New York.

Article I. This institution shall be known by the title of the COLLEGE OF PHARMACY OF THE CITY AND COUNTY OF NEW YORK.

ART. II. The officers of this institution, shall be a president, three vice presidents, a treasurer, and secretary; who, together with seven other members, shall form a board of trustees, to be annually chosen by ballot, at the stated meeting in March.

ART. III. Sec. 1. Any person now engaged in business, as a druggist or apothecary, in the city and county of New York, may become a member of the institution, at or before the stated meeting in June next, by signing the constitution, and paying an initiation fee of five dollars—and shall pay an annual contribution of five dollars, as long as he shall continue a member.

Sec. 2. No member who is in arrears six months for his annual contribution, shall be entitled to a vote. The annual contribution shall be payable at the meeting of the College in March.

Sec. 3. No person hereafter engaging in such business, shall be admitted as a member, unless he has been regularly educated as a druggist or apothecary, or has received a diploma from this College, and is of correct moral deportment. And in order to his admission, he must be proposed for membership in writing by two members, at a stated meeting of the College, and balloted for at the next stated meeting. Three fourths of the votes shall be necessary for his admission.

Sec. 4. No person shall be admitted to an examination for a diploma, unless he has studied four years with a respectable druggist or apothecary, and attended two full courses of the lectures of this College. But this section shall not be considered as applying to those who have already commenced their studies.

ART. IV. Sec. 1. The stated meetings of the College shall be on the third Wednesday of the months of March, June, and November.

Sec. 2. The president may call special meetings of the College when necessary.

Sec. 3. Twenty members shall form a quorum.

ART. V. Sec. 1. The board of trustees shall meet statedly once a month. Special meetings may be called by the president. They shall form their own bylaws, and define the duties of the officers.

Sec. 2. Seven members shall form a quorum.

Sec. 3. It shall be the duty of the board to recommend suitable persons as lecturers on materia medica, chemistry, and pharmacy, and on such branches of science as may be useful in the instruction of apothecaries, who shall be elected by a majority, at a general meeting of the College.

Sec. 4. They shall annually appoint a standing committee, who shall decide on all cases of dispute that may arise in the transaction of business, between members of this College, which may be referred to them.

Sec. 5. The trustrees shall have power to publish in a pamphlet form, from time to time, such original essays, or extracts from book of science, as may, in their opinion, be deemed useful for the advancement of knowledge, connected with the business of druggists or apothecaries.

Sec. 6. The trustees shall have power to adopt rules and regulations for the examination of candidates, and the granting diplomas to those who shall attend the lectures in the school of pharmacy.

Art. VI. Complaints may be preferred against any member of this College, to the Board of Trustees, for misconduct in his business, either by adulteration of articles, or otherwise. If the trustees are satisfied that such complaints are well founded, they shall appoint a subcommittee to remonstrate with the individual, and if he shall refuse or neglect to remedy the evil complained of, the trustees may report the case to a meeting of the College, to be called at their request by the president, giving the offending member due notice thereof: and, at such meeting, he may be expelled by a vote of three fourths of the members present.

Art. VII. Sec. 1. The College may elect, in the same manner as directed by article third, as honorary members, druggists and apothecaries, who have retired from business, and chemists, (residing in the county of New-York,) whose character and recommendations shall be satisfactory to them. From such members, no contribution shall be exacted. They shall have the privilege of the use of the library, and of attending the lectures and meetings of the College, but they shall not be entitled to a vote.

Sec. 2. The president, by and with the advice of the trustees, may each year, at the meeting in November, propose to the College the names of not more than four distinguished persons, men of science, (not resident in the county,) who may be elected, at the stated meeting in March, honorary members.

Art. VIII. No alteration shall be made in this Constitution, unless proposed to the College at one stated meeting, considered at the next, and adopted by two thirds of the members present.

At a meeting held on the 25th of March, the following gentlemen were elected officers for the ensuing year, viz.

John D. Keese—*President.*

Henry H. Schieffelen, John L. Embree, Waldron B. Post—*Vice Presidents.*

Theodore Keese—*Treasurer.*

Oliver Hull—*Secretary.*

Henry T. Kiersted, Patrick Dickey, Constantine Adamson, James H. Hart, Paul H. Lalouette, James C. Haviland, Lindley Murray—*Trustees.*

Extract from a Report of the Governors of the New York Hospital.

William Hammersly, M. D., David Hosack, M. D.—*Consulting Physicians.*

John Watts, M. D., Thomas Cock, M. D., Stephen Brown, M. D., Frs. U. Johnston, M. D.—*Attending Physicians.*

John Neilson, M. D.—*Physician to the Asylum.*

James Macdonald, M. D.—*Resident Physician do.*

Valentine Mott, M. D., Alexander H. Stevens, M. D., John C. Cheesman, M. D., J. Kearny Rodgers, M. D.—*Attending Surgeons.*

Noah Wetmore—*Superintendant.*

John D. Ogden, M. D., William H. Hobart, M. D.—*House Physicians.*

David A. Edgar, M. D., Edgar Olcott, M. D.—*House Surgeons.*

Thomas W. Ustick—*Apothecary.*

Daniel Ley—*Clerk.*

During the year 1828, there have been 1805 patients admitted into the Hospital, and, with the 187 patients remaining on the 31st December, 1827, make the number of 1,992 patients, who have received the benefit of the institution during the year 1828; of that number 1376 patients have been cured, 123 relieved, 56 have been discharged at their own request, or that of their friends, and 31 as improper objects; 25 have eloped or been discharged as disorderly; 193 have died, and 188 remained on the 31st December last.

The above number is exclusive of 134 maniac patients admitted into the Bloomingdale Asylum, and, together with those that remained there on the 31st December, 1827, amount to 219 lunatic patients who have received the benefit of the Asylum during the year 1828: of those patients 59 have been discharged cured; eight as being much improved; 21 as being improved; 28 discharged at the request of their friends, though not improved; 13 have died; one has eloped, and 89 remained on the 31st December last.

The following is a catalogue of diseases which occurred in the practice of the Hospital.

Abscessus	13
Amaurosis	1
Amenorrhœa	3
Apoplexia	12
Asthenia	14
Bronchitis	4
Caries	1
Carcinoma	1
Cataract	2
Cephalalgia	7
Cholera	4
Colica Pictonum	18
Constipatio	24
Contusio	84
Cutanei	27
Delirium a Potu	43
Diarrhœa	19
Dislocatio	10
Dysenteria	39
Enteritis	3
Epistaxis	1
Epilepsy	4
Erysipelas	20
Febres	377
Fistula	12
Fractura	57
Hæmatemesis	1
Hæmoptysis	11
Hæmorrhois	10
Hepatitis	18
Hernia	5
Hydarthrus	8
Hydrocele	6
Hydrops	42
Hydrothorax	6
Hysteria	1
Icterus	7
Menorrhagia	1
Necrosis	3
Nephritis	3
Ophthalmia	18
Orchitis	14
Otitis	4
Paralysis	18
Paronychia	1
Pernio	7
Phthisis Pulmonalis	39
Pleuritis	12
Phlegmon	2
Pneumonia	126
Ptyalismus	3
Rheumatismus	160
Scrophula	5
Sphacelus	3

Splenitis - - -	5	Ulcus - - -	155
Strictura - - -	23	Urethritis - - -	18
Syphilis - - -	185	Ustio - - - -	7
Tetanus - - -	3	Vulnus - - -	56
Tonsillitis - - -	9		
Tumor - - -	10	Total - - -	1805

The Bloomingdale Asylum Report contains not a single fact interesting to the physician, either as to the name, character, or treatment of the diseases therein witnessed!

Medical Society of the State of New York.—This Society met at the capitol in the city of Albany, pursuant to statute, on Tuesday, the 3d of February, 1829.

A communication from the Medical Society of the city and county of New York, requesting the cooperation of the State Society in procuring the establishment of a *State Vaccine Institution*, in obtaining a grant from the legislature to the College of Physicians and Surgeons in New York proportioned to its wants and embarrassments, in preventing an alteration of the recent modified laws regulating the practice of physic and surgery in this state, in opposing the application of Samuel Thompson for the passage of a law providing for the licensing of *steam doctors*, in adopting measures to suppress intemperance, and in remedying the evils arising from the present preparing and dispensing of medicines—was referred to a committee, who made a report highly favorable to the wishes of the city association.

The following gentlemen were elected officers for the ensuing year:

Dr. T. ROMEYN BECK, *President.*
HENRY MITCHELL, *Vice President.*
JOEL A. WING, *Secretary.*
JONATHAN EIGHTS, *Treasurer.*

Drs. John B. Beck, of New York, and Harvey Doolittle, of Herkimer—*Permanent Members.*

Drs. James R. Manley, John C. Cheeseman, John Watts, Jr. —*Censors for the Southern District.*

Drs. Peter Wendell, Charles D. Townsend, William Bay—*Censors for the Middle District.*

Drs. John H. Steele, Daniel Ayres, James Stevenson—*Censors for the Eastern District.*

Drs. Alexander Coventry, Thomas Spencer, Frederick F. Backus—*Censors for the Western District.*

Drs. John M'Clellan, Thomas G. Evans, Laurens Hull, Levi Farr, Alpheus S. Greene, Platt Williams, John G. Morgan—*Committee of Correspondence.*

Drs. James M'Naughton, T. Romeyn Beck, Jonathan Eights, John Watts, Jr., and James R. Manley—*Committee on Prize Questions.*

Drs. Samuel White, of Columbia county, and John Augustine Smith, of New York, were elected *Permanent Members.*

Drs. John B. Beck, and James M'Naughton, were duly nominated Delegates to the Convention to meet at Washington in 1830, on the national Pharmacopœia.

The following are the *Prize Questions* for this year:

1. The history, preparation, and medical uses of Iodine.
2. The nature, symptoms, causes, and treatment of Delirium Tremens.

Extract from the Annual Report of Interments in the City and County of New York, for 1828, showing the ages, sexes, and diseases of those who died.

SEX.

Of Men there were	1574
Women,	1045
Boys,	1447
Girls,	1115
Total,	5181

AGE.

Of 1 year and under	1427
Between 1 and 2	460
2 and 5	339
5 and 10	149
10 and 20	193
20 and 30	685
30 and 40	729
40 and 50	496
50 and 60	302
60 and 70	214
70 and 80	115
80 and 90	57
90 and 100	13
100 and upwards	2
Total,	5181

DISEASES.

Abcess,	10
Aneurism,	1
Apoplexy,	94
Asphyxia,	4
Asthma,	2
Burned or scalded,	21
Carbuncle,	2
Cancer,	6
Caries,	1
Casualty,	43
Catarrh,	1
Chickenpox,	1
Childbed,	35
Cholera morbus,	19
Colic,	4
Compression of the brain,	5
Consumption,	906
Convulsions,	336
Contusion,	1
Cramp in the stomach,	13
Diabetes,	1
Diarrhœa,	110
Drinking cold water,	9
Drospy,	118
Dropsy in the chest,	49
Dropsy in the head,	236
Drowned,	84
Dysentery,	155
Dyspepsia,	6
Epilepsy,	14

Erysipelas,	10	Manslaughter,	1
Fever,	91	Marasmus,	111
Fever, bilious,	25	Measles,	28
Fever, bilious remittent,	14	Mortification,	11
Fever, hectic,	2	Nervous disease,	4
Fever, inflammatory,	5	Old age,	195
Fever, intermittent,	40	Palsy,	29
Fever, puerperal,	12	Peripneumony,	26
Fever, putrid,	1	Pleurisy,	19
Fever, remittent,	44	Pneumonia typhodes,	4
Fever, scarlet,	11	Quinsy,	13
Fever, typhus,	131	Rheumatism,	12
Flux, infantile,	167	Rupture,	3
Fracture,	3	St. Anthony's fire,	2
Gravel,	4	Scirrhus of the liver,	2
Hemorrhage,	13	Scrofula or king's evil,	17
Hæmoptysis,	8	Smallpox,	93
Herpes,	2	Sore throat,	24
Hives or croup,	155	Spasms,	6
Hysteria,	2	Sprue,	22
Iliac passion,	2	Stillborn,	338
Inflammation of the bladder,	3	Stranguary,	2
Inflammation of the bowels,	141	Sudden death,	1
Inflammation of the brain,	109	Suicide,	22
Inflammation of the chest,	201	Syphilis,	14
Inflammation of the liver,	56	Tabes mesenterica,	139
Inflammation of the stomach,	15	Teething,	86
Influenza,	3	Tumor,	2
Insanity,	7	Ulcer,	15
Intemperance,	75	Unknown,	98
Jaundice,	10	White swelling,	6
Killed or murdered,	3	Whooping cough,	157
Leprosy,	1	Worms,	16
Locked jaw,	7		
Lumbar abscess,	3	Total,	5181

It is a singular circumstance, noticed by the city inspector, that the number of deaths in 1828, is exactly the same as in the preceding year.

The total number of colored persons who died was six hundred and thirty.

Of consumption, it will be seen, that there were *nine hundred and six cases*, of which, ninety-nine were colored persons. The disease was most rife in March—one hundred and three cases occurring in that month.

There were three hundred and thirty-eight stillborn cases, one hundred and fifty-seven of whooping cough, and three hundred and thirty-six of convulsions.

Dysentery prevailed most in July—forty-four cases occurring in that month, nearly a third of the whole amount, which was one hundred and fifty-five.

Extract from the Eighth Annual Report of the Surgeons of the New York Eye Infirmary.

Diseases of the Eye treated at the Infirmary.—Inflammation of the conjunctiva, 226; do. do. with purulent discharge, (adults,) 11; do. do. do. (infants,) 13; strumous inflammation of the conjunctiva, 62; do. do. with pustules, 77; granulated lids and vascular cornea, 32; excrescences of the conjunctiva, 1; inflammation of the cornea, 56; ulcers of the cornea, 28; opacities of the cornea, 24; pterygium, 1; staphyloma, 3; iritis, 59; sclerotitis, 4; closed pupil, 3; cataract, 19; amaurosis, 71; strabismus, 1; tinea 54; lippitudo, 35; hordeolum, 3; inversion and eversion of lids, 5; tumors of lids, 18; abscess of lids, 8; ptosis, 4; diseases of lachrymal passages, 24; wounds and injuries, 71; tumors of orbit, 2; exostosis, 1; burn, 2; pediculi ciliorum, 1; anomalous, 6—total 925.

Diseases of the Ear.—Otirrhœa, 24; otitis, 8; otalgia, 2; ulcer of the external auditory passage, 1; indurated wax, 8; increased secretion of wax, 2; defective secretion of wax, 5; tympanitis, 1; caries of the temporal bone, 3; paralysis, 1; closure of the eustachian tube, 3; fistulous opening into the mastoid cells 1; scrofula affecting the ear, 2; contusion of the ear, 1; fungus auri, 2; deafness, unaccompanied with any external symptom, 27—total 91.

EDWARD DELAFIELD, M. D.
J. KEARNY RODGERS, M. D. } Surgeons.
PETER FORRESTER, M. D.

Extract from the Annual Report of the New York City Dispensary.

Cured,	8584
Relieved and incurable,	351
Disorderly,	80
Removed from the visiting districts,	14
do. to the hospital,	21
do. to Bellevue,	65
Died,	86
Remaining under charge,	197
Total, (exclusive of those vaccinated,)	9398
do. do. 1827,	8669
Increase,	629

The trustees of this truly efficient charity are exerting their utmost efforts to erect a new building suitable to the wants and convenience of the physicians.

Death of E. A. HOLYOKE, M. D., L. L. D.—Our eastern correspondent informs us that the death of this venerable patriarch of the profession, which occurred on the 31st of March, at the age of one hundred years and seven months, was occasioned by a schirrous affection of the stomach. The Essex Southern District Medical Society, to whom he has left a donation of part of his library, have appointed a committee of their members to furnish a memoir of his life and character. We understand, also, that an account of the very interesting port mortem examination of his body, together with his own account of the symptoms of his case, written shortly before his decease, will soon be published. This amiable and eminent individual, who was *actively* engaged in the *practice* of his profession in the place in which he died for more than seventy years, was a model of learning, industry, and modesty, and of the best and most polished traits of medical character. During the most active part of his life he was far before his cotemporaries in medical learning and talent for observation, and he was among the very first cultivators of Natural Philosophy in America. Had the medical and scientific press been established during the last century as it is now, he would have been generally and favorably known throughout the United States, as he is universally in New England, for an enlightened and philosophical physician and philanthropist. So steady and uniform has been his life, that, although by a computation made by himself shortly before his last sickness, (falling far within the actual truth,) he has walked, in the course of his business, more than 150,000 miles, he was never in his life fifty miles from the spot on which he was born.

Death of Dr. GORHAM.—The medical profession and the public have to deplore the loss of one of the most valuable members of society, in the death of Dr. JOHN GORHAM. After a very sudden and violent attack, he died of a pleurisy on the 27th day of March.

Dr. Gorham graduated at Cambridge in the year 1801; soon after, he began the study of medicine as a pupil of the late Dr. Warren, and received the degree of Doctor of Medicine at the usual period. He then went to Europe to complete his education, remained there about two years, and, on his return, became connected in marriage with the daughter of his former instructor. Through the intervention of this gentleman, he obtained the friendship and confidence of the late excellent Dr. Dexter, then professor of chemistry; and was by him associated in the duties of that office, as adjunct professor of chemistry. The same friendly hand opened for him the door to an extensive and respectable practice; in obtaining which, he was materially aided by a number of private courses of chemistry to the citizens of Boston. In the year 1811, his colleague having resigned his office, Dr. Gorham was chosen professor of chemistry and mineraology in the University of Cambridge, and continued to give lectures in Boston and Cambridge till 1827, when the great increase of his business led him to resign this post, and devote himself wholly to private practice. During the time of his professorship, he published a valuable system of chemistry, in two octavo volumes. He wrote many papers in the New England Journal of Medicine and Surgery, of which he was a joint editor for about fifteen years, and contributed also to the Boston Medical and Surgical Journal. He lent his aid to the improvement of medical science, by serving as recording secretary of the Massachusetts Medical Society, aad held various other offices, which demanded labor and ability. He was to have delivered the next annual discourse of the Massachusetts Medical Society. His practice regularly increased till it became so great as to require efforts and exposures which predisposed him to disease, and threw him in the way of its exciting causes.

Dr. Gorham had arrived at the period of life when a good physician is most valuable to the community; at the period, when to learning is added personal experience, when the judgment is mature, and when the confidence, not of a few individuals only, but of the public at large, is secured and settled. He was a good physician, indeed, and the community realized his worth. He was in the midst of a full business, and ardent in the prosecution of it. He obtained not only the confidence, but the love, of his patients, and enjoyed at the same time the respect and sincere good will of his professional brethren.

Justice may call on us to say so much, and would permit the use of stronger terms. For the benefit of survivors, it may be proper to enquire how he obtained so much respect, confidence, and good will. It was by diligence and fidelity in seeking for knowledge and in using it; by rectitude in principle and urbanity of manners. But he had a charm, which these words do not describe, and which was felt by all who knew him. This charm arose from the simplicity, if it may be so termed, which marked his character. Frank and open hearted, free from selfish propensities, he sought to make others happy, without thinking of the merit of it; and he succeeded; for his face, truly beaming with benevolence, cast a bright light on those around him, while his kind feelings begat a sympathetic good will among his friends and companions.—*Boston Medical and Surgical Jour.*

We have received the Medical and Literary Annals published by Professor Hecker, at Berlin, to October, 1828, and regret that want of room prevents a detailed notice in the present number. Among the reviews, is one of Dr. Beck's Elements of Medical Jurisprudence, in which the eighth chapter, on Infanticide, by Dr. John B. Beck, is spoken of in particular terms of approbation.

We have also received "los Anales de Ciencia, y Agricultura, Comercio, y Artes, por D. Ramon de la Sagra"—published at Havana, monthly. They contain several interesting articles, which we shall communicate in the next number.

The committee appointed by the State Medical Society of New York to decide on the best dissertation submitted to them on the subject of Typhus Fever, have awarded the premium to ALFRED T. MAGILL, M. D., of Winchester, Virginia.

The next number will contain the Prize Essay on Typhus Fever, by Dr. Magill, of Virginia; also essays by Drs. J. M. Smith, James M'Naughton, Fountain, J. K. Rodgers, Baxter, Lee, Doucet, Graves, &c.

☞ In reply to a card by Dr. Tessier, which was published in the last number of this Journal, we have received from Messrs. Carey, Lea, & Carey a communication, accompanied with certain documents, by which they make it satisfactorily appear that they did not retain the MS. of Dr. Tessier with any intention to injure the merit of his work. We state this as an act of justice to those gentlemen, and sincerely hope that the misunderstanding between themselves and Dr. T. may be speedily adjusted to their mutual satisfaction.

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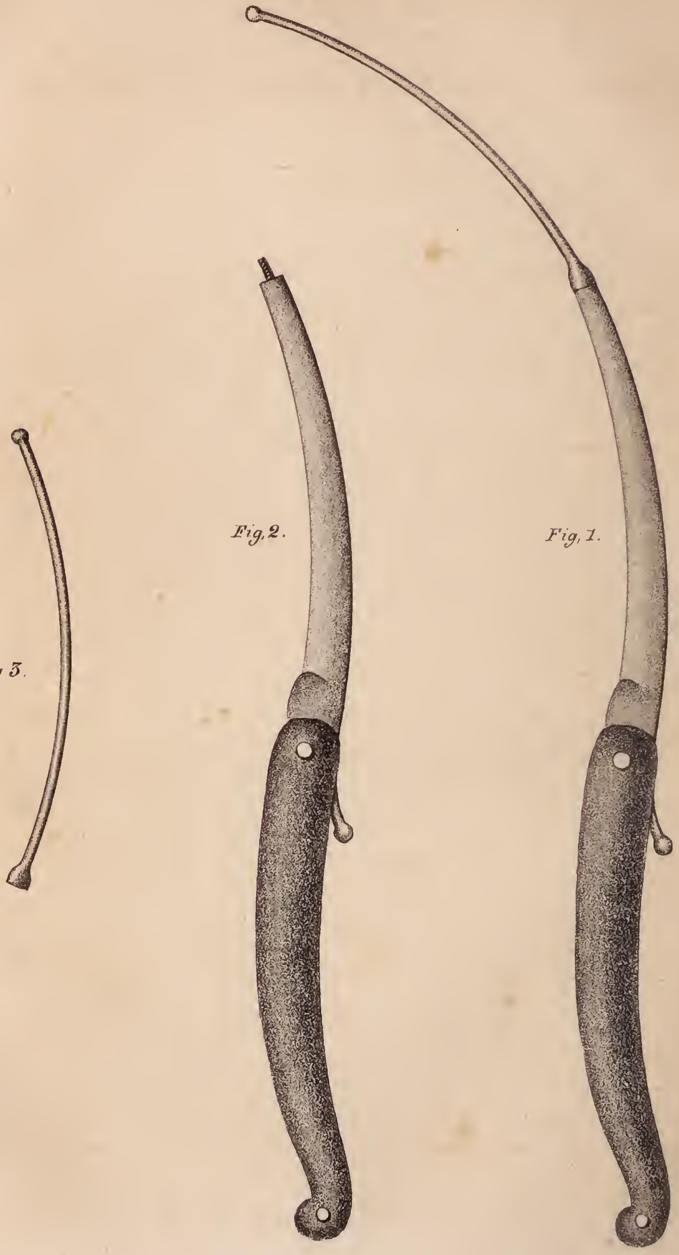

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MEDICAL AND PHYSICAL JOURNAL.

JULY, 1829.

ART. I. *An Essay on the History, Causes, and Treatment of Typhus Fever.* To which the Annual Prize for the year 1828 was awarded by the Medical Society of the State of New York. By ALFRED T. MAGILL, M. D., of Winchester, Virginia.

"Ex principiis nascitur probabilitas; ex factis vero veritas."

THE word Typhus, according to most writers, is derived from the Greek noun τυφος, stupor, a symptom which frequently supervenes, sooner or later, in the progress of the disease; oftener, however, coming on towards its termination, than existing in its earlier stages. The learned and scientific Good, however, refers the derivation of the term to the verb τυφο, which signifies "to smoulder," or "to burn and smoke without a vent," and thinks it "admirably expressive of the general nature of the fever to which it was applied at first, and which it designates at present; which burns not with open violence as the cauma, but with a sort of concealed and smothered flame."* There are, however, various other appellations by which this fever is known; such as the jail, camp, hospital, and ship fever. It has also been denominated the putrid, malignant fever, and from the frequent presence of petechiæ it is called, on the continent of Europe, febris petechialis, and constitutes the contagious fever of Lind, the febris inirritativa of Darwin, and the nervous fever of other writers.

The history of this fever is rather obscure. The ancient authors on medicine make no particular mention of it, from which we may conclude, that they were either unacquainted with it, or, considering it merely as a variety of the common fever of their respective countries, did not deem it worthy of special notice. Sydenham was probably the first medical writer who described this disease, not, however, by the name under which it is now known. The account of it is contained in his "Essay on the rise of a new Fever." He says, "As soon as it began to thaw in February, 1685, the fever I intend to treat of here appeared, which I esteem a new sort of fever, and altogether unlike the fever of the eight foregoing years."* No one can read the symptoms of that fever as narrated by that great and good man, without remarking the striking similarity between them and the assemblage of symptoms which constitute the typhus of the present day; and, indeed, it has been considered as such by subsequent writers.† Sydenham does not mention that this fever was at all contagious, but attributed it to a particular state or constitution of the atmosphere.

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* Good's Study of Medicine, vol. 2, p. 123.

In the year 1577, more than one hundred years anterior to the date of this fever described by Sydenham, a disease suddenly made its appearance, during the Black Assize at Oxford, in the month of July. This fever is generally cited as an instance of jail fever, and as affording incontestible evidence of its contagious character. The infection in this instance was supposed to have been communicated by one Rowland Jencks, a criminal, who "was arraigned and condemned in the presence of *a great number of people to lose his ears. Judgment being passed, and the prisoner taken away*, there arose such an *infectious damp* or *breath* among the people, that *many there present, to the apprehension of most men were there smothered;* and others so deeply infected that they lived not many hours after."‡ This fever is no doubt one of the instances alluded to by lord chancellor Bacon, when he says, that "The most pernicious infection, next to the plague, is the smell of the jail, where prisoners have been long, close, and nastily kept; whereof we have had, in our time, experience twice or thrice, when both the judges that sat upon the jail, and numbers of those who attended the business, or were present, sickened upon it and died."

Nearly nine years subsequent to this event, an infectious fever (as it was called) made its appearance at Exeter, during the assizes there, in March, 1586. This fever was attributed by many to contagion communicated by some Portuguese seamen, "who had been some time before taken at sea, coming with fish from Newfoundland, and "cast into the deep pit and stinking dungeon" of the "goale of the castle of Exon;" and "had no change of apparell," but being left to lie "upon the ground without succour or reliefe, were soon infected."* These persons, when brought into court for their trial, were supposed to have communicated the contagion to many of the individuals present.

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* Wallis Syd., vol. 2, p. 315.

† Wallis, in one of his notes to this essay, says, "Dr. Cullen considers this as a species of typhus, but of the milder kind, and arranges it under that genus by the name febris nova."

‡ Bancroft on Fevers, p. 430.

"From that time (says Bancroft) I can discover no instance of any remarkable mortality or sickness, supposed to have been produced by jail infection, until the year 1730, (an interval of one hundred and fifty-three years,) when, at the Lent assizes, some prisoners, who had been removed from Ilchester jail, to take their trial at Taunton, were believed to have infected a part of the court, and produced a contagious disease"† of which many died.

Huxham, also, mentions in vol. 2, p. 82, of his work de Aere, &c., that a disease, which he calls "Febris putrida, contagiosa ac pestifera valde," broke out at Launceton, in the month of April, 1742. He says, "genita hoc in canceribus febris et per comitia provincialia disseminata longe lateque."

In the year 1750, a fever made its appearance "during the sessions of the Old Bailey, which proved fatal to the lord mayor, and two of the judges, with several eminent and other persons, who, as was asserted, and is now generally believed, were infected by the contagion of jail fever brought into the court from Newgate."‡

Previous, however, to this occurrence at the Old Bailey, two essays had appeared on the subject, from the pen of Ebenezer Gilchrist, of Dumfries, which were published in the fourth and fifth volumes of the Edinburgh Medical Essays and Observations. He called it "nervous fever." Neither its origin nor its propagation was attributed by him to contagion.

A considerable time after this, Huxham and sir John Pringle published their essays on typhus—Huxham under the appellations of "slow nervous fever" (febris lenta nervosa) and "malignant putrid fever,"§ and Pringle under that of

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* Bancroft, p. 434.

† Ibid, p. 110.

‡ Ibid, p. 111.

§ The "slow nervous fever" and the "malignant putrid fever" of Huxham, are obviously only different *grades* of the same disease; they correspond to the typhus mitior and gravior of nosologists.

"jail or hospital fever." Both these writers were strenuous advocates for the attribute of contagion as belonging to this fever. Subsequent to these publications we find much more attention paid to this subject, and its pathology and causes have been investigated with much ardor and diligence. Many of those who have written on it have contended for its being contagious; some there are, however, who dissent from this doctrine, and deny that it possesses any such property.

This fever has been divided by nosologists into the *typhus mitior*, (mild typhus or nervous fever,) and *typhus gravior*, (malignant or putrid typhus;) thus indicating its sometimes mild and sometimes violent character. This distinction appears to us to be entirely useless. It produces an unnecessary multiplication of words; the same language descriptive of one grade being applicable, with a slight variation, to the other; so much so, that both can be easily comprehended in one general description, and it, moreover, leads to no good practical result. The typhus mitior and gravior being only grades of the same disease, are to be treated exactly on the same principles; and that physician who has not sagacity enough to discriminate between a mild and a severe fever, will not have his intellectual vision brightened by such distinctions. Independent, however, of these reasons, we do not think, in practice at least, that the distinction can always be made. However easily it may be done in the closet, it will be found often impossible at the bedside of the patient. Every physician of much experience in this disease, will acknowledge that in a majority of cases, the symptoms are such as to render it doubtful to which grade they belong. Wilson remarks, that "between the worst and mildest forms, there are innumerable degrees which insensibly run into each other;" thus rendering it impossible to draw a distinct line of demarcation between them. Those, therefore, who are in favor of distinguishing typhus into grades, should carry out this principle, and give a separate description of each of its "innumerable degrees;" for there would be just as much ground for this, in a practical point of view, as there is for the other; they should also extend this principle to other fevers, for if this distinction be necessary in typhus, it is equally so, for instance, in yellow fever, for it also has its gradations of violence and mildness. Another objection to it is this: the different grades of this fever are so readily convertible into each other, that, according to the treatment pursued, what was mitior today, may be gravior tomorrow, and *vice versa*. For these reasons we reject these distinctions, which we consider arbitrary and useless.

Armstrong, in his unequalled work on typhus fever,* notices three varieties instead of two. He divides the disease into the typhus of simple excitement, the inflammatory and the congestive typhus; though we have the same objection to his two first divisions, that we have to those of mitior and gravior, yet, nevertheless, we think his arrangement on the whole better than the other; the phraseology which he employs to designate the different forms of this disease is, we think, preferable to that of mitior and gravior, inasmuch as it expresses in itself the real character and pathology of the disease, and strikes at the root of those notions of debility and putrescency as prominent features of this fever, which we derive from books, and which are intimately associated with all our reflections on it; and it moreover includes a form of the disease, which unquestionably demands a separate consideration, i. e. congestive fever. Until the publication of his work, we had no distinct conception of the pathology of congestive fever; his post mortem examinations, however, have revealed its true character; and his graphic pen has delineated with so much accuracy its symptoms, that it cannot fail to be recognized by even the most careless observer. But though we prefer his arrangement to the other, we shall adopt it only in part. We will include his two first divisions in one general description, and then treat of congestive typhus, under a separate head. We will now proceed to an enumeration of the symptoms of typhus.

Symptoms. This fever commences with the same symptoms which usher in the attack of other febrile affections.† A feeling of languor and an indescribable sense of weariness and dejection, are usually the first links in the chain of symptoms which constitute this disease; there is also, usually, some slight gastric distress, sometimes amounting to nausea, together with a total loss of appetite. There is, in some cases, a cold creeping sensation over the body; in others, particularly when the attack is severe, this coldness amounts to rigor, alternating with quick and transient flushes of heat; the face is pale, with some slight appearance of livor under the eyes; and there is more or less of a load, pain, or giddiness of the head—the pulse at this time is generally weak, low, and frequently irregular. This assemblage of symptoms constitutes what has been aptly termed by Armstrong the stage of oppression. This may continue from a few hours to as many days; sooner or later, however, evidences of decided reaction supervene. The face loses its paleness and generally becomes much flushed; the pulse increases in frequency; in some cases it is tense and hard; the headache becomes excruciating, and the mind is often overwhelmed with delirium. The skin grows very warm, and the heat appears to have a penetrating quality.* The thirst becomes considerable, and, in some cases, almost unquenchable. In milder cases these symptoms are much less prominent and severe: in such cases, the pulse, though quicker than natural, is neither hard nor strong, and the uneasiness of the head not near as great; the delirium, if present, is seldom violent and uncontrollable as in the severer modifications of the disease. Petechiæ also frequently make their appearance, though they are by no means peculiar to typhus, but frequently occur in other fevers; the mouth is parched and dry, and the tongue, from the beginning, is more or less furred, and, in the progress of the disease, generally brown, and sometimes black; the bowels are often much disposed to constipation, and the secretions and excretions are much charged; the alvine discharges becoming dark and offensive, and the odor of the breath and body very unpleasant. After a longer or shorter time, varying from the seventh to the eighteenth day, and, in severe cases, sometimes a much shorter period, a change takes place in the character of the disease; what Armstrong calls the stage of collapse supervenes, and if the patient has been properly treated during the period of excitement, it is usually the beginning of a return to health, which is indicated by an abatement of all the symptoms; but if (particularly in severe cases) the fever and topical inflammation, which are almost always present in such cases, have not been kept in proper subjection, it is a change pregnant with the utmost danger to the patient; the delirium is lost in profound stupor, the tongue becomes exceedingly black and dry; dark sordes collect about the teeth; subsultus tendinum, and what have been denominated symptoms of putrescency, appear; the petechiæ, if present, turn to a dark purple color; hemorrhages from the stomach, bowels, and kidneys, (the last making the urine dark,*) come on, or "profuse ichorous and involuntary stools" soon extinguish the remains of life. The patient, however, is sometimes carried off by convulsions.

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* We cannot mention this work, without expressing the unbounded admiration we feel for the talents of him who composed it, and our conviction of its great value. If we were required to put our finger upon a volume, containing the greatest amount of practical information on the diseases of which it treats, we should unhesitatingly select it in preference to any work with which we are acquainted. The neatness, elegance, and perspicuity of its style, the vast fund of practical instruction spread over its pages, and the vital principle of genius which pervades every portion of it, has always rendered its perusal, to us, an intellectual treat.

† Pringle remarks, that "the disease in the beginning is not easily distinguished from any common fever."

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* Pringle notices this symptom. "On first touching the skin," says he, "the heat seems inconsiderable; but upon feeling the pulse for some time, I have been sensible of an uncommon ardor, leaving an unpleasant sensation on my fingers for a few minutes after. The first time I observed this, I referred it to the force of imagination, but was assured of the reality by repeated experiments, and by the testimony of others, who, without knowing of my observation, had made the same remark." Other physicians have also mentioned it. Frank, in allusion to it, says, "sœpe manifeste acer digitosque urens." It has been called by others a biting heat. It is not, however, peculiar to typhus, as we have observed it in other fevers.

Prognosis. In forming our prognosis of the probable event of this fever, we must not deduce our opinion from any one symptom, however prominent it may be, but rather from mature deliberation upon the symptoms taken collectively: as the chief danger, not only in this, but in all fevers, arises from the disorganizing effects of high and uncontrolled excitement, upon some one of the vital organs, it follows, that if this be moderate, or if it be even high, and we find that we can keep it in due subjection, then we may rationally anticipate a favorable termination; but if neither of these conditions obtain, then we may justly dread the event. But to be more particular: we may calculate on recovery when the delirium is slight, the strength not much impaired, the tongue moist and beginning to clear, bowels loose and easily operated on by medicine; when deglutition is performed without difficulty, and the respiration is free and easy,† with a soft and moist skin. A deafness coming on during the fever is considered by many a favorable sign.‡

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* Huxham says, "I have frequently seen the urine, in petechial fever, almost black."

† Fordyce on Fever, page 221, observes, that, "although the patient should be insensible to all external objects, although he should sleep very little, yet, if the *deglutition and respiration* should remain unimpaired, the patient is not to be despaired of; it happens even that he most commonly recovers. But if he *respires with great difficulty*, or hardly at all, or if the deglutition be almost totally prevented, or if the attempt to swallow throws him into convulsive contractions, he rarely recovers."

‡ We have mentioned deafness as one of the favorable symptoms in typhus, more upon the authority of others, than on our own conviction of its being such; to us it clearly indicates a degree of fulness of the cerebral vessels, which, in our opinion, is much to be deprecated. That it is owing to this cause is plain from its being removed by evacuants, and by its returning if these are discontinued. Every physician must have witnessed this. Hippocrates testifies to this fact. In section 4th, aphorism 28th, he

Besides the signs already mentioned, there are what are called critical discharges. Among the most frequent of these, is sweating; this evacuation was at one time considered of so much importance in the cure of fever, that it was thought a *sine qua non* to recovery,* and accordingly the most heating and pernicious means were employed to force this discharge. This destructive and irrational practice is fortunately almost exploded at the present time, and physicians now, with the exception of using a few antimonials, generally leave it to nature, who effects it best in her own way.†

The most frequent critical discharge is a diarrhœa; this, when of a proper kind, very often terminates the fever; it is always most beneficial when the stools are bilious and somewhat consistent; profuse liquid and colliquative discharges always do harm, and often irretrievably prostrate the patient in a very short time. This last description of diarrhœa is, of course, to be immediately arrested; the first kind ought rather to be encouraged. Hemorrhages, likewise, often prove critical in this fever; the blood may proceed from the nose, stomach, or bowels. Persons have been often rescued from the grave, when given up as lost, by the opportune occurrence of hemorrhage from the bowels, and other parts; they should always admonish the practitioner to relieve nature from the necessity of resorting to this hazardous alternative, by using proper depletion in the first stages of the disease; we say hazardous alternative, because it often comes too late, and as often is excessive in quantity. Hemorrhage only does good in typhus when it occurs early in the disease, before the constitution has been shattered by the long continuance of the fever. This fact did not escape the sagacious mind of the father of medicine. In one of his

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remarks, "Quibus biliosæ sunt egestiones, surditate superveniente cessant; et, quibus surditas est, biliosis supervenientibus cessat." Although in the first part of this aphorism, he seems to consider the cessation of the bilious discharges as the effect of the deafness, yet it is obvious from the latter part of it, in which he says this deafness is removed by the recurrence of these evacuations, that he had mistaken the cause for the effect.

* Huxham declares that "he never once saw a malignant typhus cured, till more or less sweat had issued."

† To Sydenham the praise is justly due for having put down the pernicious practice of endeavoring to force a perspiration, by the use of the most heating and inflammatory measures, and of substituting in its place the cooling and evacuating plan of treatment. It constituted by no means the least of his triumphs over the deep rooted prejudices of the times in which he lived.

aphorisms, he says, that "livid, bloody, fœtid, and bilious stools, coming on in continued fevers, are alike unfavorable; but a timely appearance of them beneficial."[*]

This fever also terminates occasionally in glandular swellings. Dr. Donald Morris, in his work on diseases of the army, observes, that "swellings of the parotid glands appeared in many subjects towards the decline of the fever, which came to suppuration and proved critical." Pringle, and other writers, also mention their occurrence, and recommend an early incision to discharge the pus.

Having enumerated the favorable symptoms, we will now briefly mention those which portend the approach of death. The bad signs are high delirium or deep stupor, subsultus tendinum, black, dry, and tremulous tongue, and inability to protrude it beyond the lips; difficult deglutition, and impeded respiration; weak, irregular, and intermitting pulse; great restlessness, evinced by frequent attempts to get out of bed, or by continual tossing from one side of it to another; the surface of the body bedewed with a cold sweat; frequent colliquative stools and hemorrhage from the mouth, ears, &c.; sometimes the patient expires in convulsions. Such is the dark catalogue of symptoms which declare death to be at hand. Even these, however, should not deter us from exertions to save life; persons sometimes recover with nearly all the above mentioned desperate symptoms, and the knowledge of this fact should teach us the important lesson never to abandon, as entirely hopeless, any case of fever; appearances are sometimes fallacious,[†] and we should never fold our arms in inactivity, though a combination of the worst symptoms exist.

Pathology of Typhus. Typhus fever has been for a long time, and still is with too many, associated with the ideas of debility and putrescency as its standing and prominent symptoms. The prejudices on this head, however, are beginning to lose some portion of their sway, in consequence of the flood of light which has been shed on the pathology and treatment of typhus, by some recent publications. Among these the work by Armstrong stands conspicuous; the appearance of which may be said to have constituted a new era in the history of typhus. But while bestowing due praise on this distinguished writer, let us not forget the illustrious Sydenham, whose sagacious and strong mind, more than a century and a half ago, discerned the true character of this fever, and suggested a course of practice, which, though in a great measure lost or forgotten amid the conflicting opinions of subsequent writers, has been revived in the present century, and is now, with but little variation, followed by all those who do not still hold to the doctrine of debility as belonging to this disease in all its stages. But to return to the subject. We will endeavor to show, from the various circumstances and phenomena incident to it, that, so far from being a disease of debility, it is essentially one of excitement, and frequently of inflammation as its consequence. One form of typhus, (i. e. the congestive,) will not, of course, be comprehended in this.

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[*] "Excretiones in febribus non intermittentibus lividæ, et cruentæ, et graveolentes, et biliosæ, omnes malæ sunt. At probe secedentes bonæ.

[†] Hippocrates remarks, that "acutorum morborum incertæ admodum, ac fallaces sunt prædictiones."

A state of real debility is a condition of the system which is, generally, (we might say always,) the consequence of long continued excitement, or the more gradual, though not less certain, result of an insidious chronic affection, preying upon some important and vital viscus. This *real debility* is always increased by such remedies as are termed evacuants, and, on the contrary, is diminished by such means as add tone to the system; but if, in the commencement of a fever, a person appears very weak, and if we find that the administration of tonics and stimulants only increases the debility, and, on the other hand, that evacuants, such as bleeding and purging, lessen it, the legitimate conclusion from these facts is, that this weakness is not real, but only apparent. This, then, is the case with the debility in the primary stages of typhus; it is increased by the exhibiting of stimulants and lessened by evacuating measures. Armstrong, whose experience was very great in this fever, bears testimony to this fact: "In the first stages of typhus," says he, "the debility is only apparent, and chiefly dependent upon the preternatural accumulations of blood in the veins about the head, heart, liver, and other internal parts, while there is less circulating upon the external surface of the body, than in a natural state. In the second stage, the debility is still only apparent, being then the consequence of over excitement of the heart and arteries; but in the third and last stage, beyond all dispute, the debility is real, as it is then connected with a general collapse, which sooner or later succeeds to a state of febrile excitement, as certainly as exhaustion follows a fit of intoxication." And a little farther on he says, that though "this proposition is not evident at first sight, yet it is as certainly true as any in physic, and is proved from the debility in the first and second stages being increased by wine and cordials and lessened by a spare regimen and evacuations."*

Every physician must have witnessed the positively strengthening effects of cathartics in typhus fevers, before the constitution has been really debilitated by long continued excitement. A patient who has been carried to the close stool, after a copious evacuation from his bowels is able to get up, and walk without assistance to his bed.† This invigorating effect of purgatives in typhus and other fevers, is of frequent occurrence, and is totally unaccountable upon the the supposition of its being a disease of debility; we commit, therefore, an egregious error when we mistake this apparent for real debility. In the strong language of Rush, "the clown who supposes the crooked appearance of a stick, when thrust into a pail of water, to be real, does not err more against the light, than that physician errs against a law of the animal economy, who mistakes the debility which arises from oppression for an exhausted state of the system, and attempts to remove it by stimulating means." But again, if this disease be one of great debility, there are many of its phenomena, mentioned by those who advocate this very theory, totally inexplicable, and indeed irreconcilable with this view of the disease. We presume every one will admit, that, if real debility be a characteristic of this fever, what are obviously debilitating discharges must increase this symptom, and of course prove prejudicial to the patient; but that this is not the fact, we will endeavor to prove from the testimony of others. Wilson observes, that "a spontaneous flow of blood from different parts of the body, we have seen, is frequently attended with an abatement, or total removal, of the symptoms of synocha, and, what we should not *a priori* have expected, sometimes those of typhus;"‡ and in another place, when speaking of typhus, he says, "I have often seen them (i. e. hemorrhages) attend a general abatement of the symptoms."|| We would ask Dr. Wilson how he can reconcile these facts with his notions of typhus fever?

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* Armstrong on Typhus, p. 25.

† This is also frequently observed in other fevers. Dr. Bryce in his account of the yellow fever on board the Busbridge Indiaman in 1792, observes, that he has "often seen a man carried upon deck, perfectly delirious with subsultus tendinum, and in a state of the greatest apparent debility, who, after one or two copious dark colored evacuations, has returned of himself, and astonished at his newly acquired strength."

‡ Wilson on Fever, vol. 1, p. 142.

|| Ibid. p. 134.

The good effects of long continued and profuse sweating in this fever cannot be accounted for on the supposition of typhus being a disease of debility. We can well imagine that the loss of quarts of fluid might be salutary in a disease of high excitement, but it could never enter into our conception that the same loss would be beneficial to one who was really and *bona fide* weak; and yet writers mention the good effects of several days' continuance of profuse perspiration.* A diarrhœa also, as was mentioned before, is often critical in this fever. We have thus endeavored to prove from the very character of the debility in the first stages of typhus, and from the phenomena and circumstances incident to it, that the opinion of those who consider it a disease of genuine debility, and, as such, requiring tonic and stimulating remedies for its cure, is erroneous.

We will now take the opposite side of the question, and will endeavor to prove that it is a disease of excitement, and often of inflammation as its consequence. In the first place we will observe, that all the circumstances and phenomena of typhus already mentioned, and which are inexplicable upon the ground of its being a disease of debility, are easily accounted for upon the supposition of its being a disease of excitement and often of inflammation. The opposite effects of stimulants and evacuants in the first stages of typhus, the relief afforded by hemorrhages, profuse and long continued sweating, diarrhœa, and the abundant and free discharge of matter from glandular swellings, are perfectly consonant to, and exactly what we would expect from, this view of the disease. But we have still better ground for this opinion: Post mortem examinations prove it to be correct; they establish, beyond doubt, that death in this fever is generally produced by the destructive ravages of inflammation on some one organ or organs of our frame. Many of the writers on this fever have recorded the results of their dissections. Pringle relates the appearances, on dissection, of ten persons who died of jail fever, in all of which, either inflammation or its effects were plainly visible; a majority of them had suppuration of the brain. Thomas says, "The usual appearances on dissection are, a softness and flaccidity in the solids; a dissolved state of the fluids, particularly of the blood; collections of sanious matter in the different cavities; turgescence and inflammation of the thoracic and abdominal viscera; and in the interior parts of the brain increased vascularity and collections of serous fluid."* Armstrong mentions that his post mortem examinations always exhibited the appearances or consequences of inflammation. Dr. Dickson, in his account of the contagious fever which prevailed in the Russian fleet, observes, "that the appearances on dissection were strongly illustrative of the frequency of visceral inflammation, in the fever which he saw and described; for the brain, lungs, and contents of the abdomen were severally found to have been attacked, among those who were the victims of this disease."† Ferriar also mentions the appearance on dissection of several persons who had died of typhus, all exhibiting the most unequivocal evidences of inflammation. These dissections seem to have made such an impression on him that he observes, after having mentioned the results of them, that "perhaps local inflammation is more frequently joined with typhus than we are aware."‡

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* Morris, in his treatise on diseases of the army, remarks, that the sweating often continued, with the best effects, for several days. Hoffman, also, makes a similar statement.

Other accounts of post mortem examinations, corroborative of the above, might be mentioned, but these are deemed sufficient to establish, beyond doubt, the pathology of typhus, and that death in this fever is generally, if not always, the result of inflammation, disorganizing some important part of the animal machine. So universally, indeed, have the traces of inflammation been observed in those who die of this and other fevers, that many physicians have adduced it as the cause of fever. Clutterbuck, Ploucquet, Mills, Marcus, Reid,|| and Broussais, are the great advocates for the local origin of fevers. The latter especially, a physician of eminent talents and much experience, has gained great celebrity by the ingenuity and ability with which he sustains his doctrine, and by the imposing array of talent which has flocked to his standard. His doctrine is, that fever arises from an inflammation of the mucous lining of the stomach and bowels.

It would be irrelevant to the object of this essay to attempt any thing like a labored refutation of this theory; which, en-

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* Thomas's Practice, p. 49.

† Armstrong on Typhus, p. 154.

‡ Medical Histories, p. 76.

|| Clutterbuck and Mills locate the inflammation, which they consider the cause of fever, in the brain. Ploucquet contended that fever was sympathetic of an inflammation of the brain, stomach, and intestines; and Reid considered its seat to be the spine. Professor Marcus, of Bavaria, taking a more enlarged view of the subject, regarded all inflamed organs as equal causes of fever.

forced with all the "zeal, energy, and talents which this celebrated school can bring into the field," has spread itself extensively over the continent of Europe, and having crossed the waters of the Atlantic, can number among its supporters many of the distinguished medical characters of this country. We are not among those, however, who assent to the truth of this doctrine; on the contrary, we reject it unqualifiedly, as being, in our opinion, utterly at war with the true pathology and phenomena of fever. We do not believe fever arises from inflammation of the mucous membrane of the stomach for the following reasons. 1st. Because in many cases we have no evidence of its existence at the commencement of fever, or for even several days after; and not unfrequently during the whole course of the disease, we have no one symptom indicative of its presence. 2d. If inflammation of the mucous membrane of the stomach and bowels be the cause of fever, then we should always have, what but rarely exists, some degree of tenderness of the epigastrium, and a constant mucous diarrhœa; the latter symptom, particularly, should be present in every case of fever; for it may be laid down as an almost invariable rule, that a part which in a healthy state secretes a fluid, has that secretion increased when it becomes inflamed; this effect we see produced in the mucous membrane of the nose, larynx, and trachea in catarrh, for example, which consists in an inflammation of these parts; and to cite a case still more in point, we find it to be strikingly the case in dysentery. All acknowledge that the mucous membrane of the intestines is inflamed in this disease, and we see increased secretion of mucus, the result of it; the same thing happens when the lining membrane of the bladder is inflamed; as we have not, therefore, this discharge in typhus, in which inflammation of the mucous membrane of the stomach and bowels is assumed to exist, we conclude that it is not present. 3d. We cannot conceive inflammation to exist in the first stage of fever; when the action of the heart and arteries is comparatively weak and feeble, and the blood, as a necessary consequence of this weakened action, accumulates in the venæ cavæ and their branches. 4th. This very accumulation of blood about the heart, inasmuch as it affords to it an increased quantity of its natural and legitimate stimulus, is abundantly sufficient to produce a reaction of this organ, or, in other words, to excite a fever, without bringing in a cause (i. e. inflammation of the stomach and bowels) which we cannot conceive to exist under such circumstances. And, 5th. Post mortem examinations do not prove it; they may, indeed, exhibit the evidences of inflammation in the lining membrane of the stomach and bowels, in the head, liver, lungs, spine, &c.; but this by no means proves, that the inflammation which is found to have existed in these different parts was antecedent to and produced the fever; and if we admit inflammation as a cause of fever, when found in the mucous membrane of the stomach and bowels after death, we must make the same admission when this inflammation is discovered to have existed in other parts; and, as a consequence of this, we should have as many differents seats of fever as there are viscera. For these reasons we reject the doctrine of Broussais and of all others who contend that fever has "a local habitation;" and in doing so we are sustained by the opinion of the most eminent pathologists of the present day. Laennec affirms, that the organic changes which we find after death from fever, are "*evidemment posterieures a la fievre*, et ne peuvent, par consequent, etre regardes comme sa cause."*

The views of those who would limit the seat of fever to some one viscus are very unphilosophical; "they narrow an important subject which disdains such petty limits." Fever is what Dr. Hosack, one of the most distinguished physicians of this country, describes it to be, "a disease of the whole system; it appears no less in all the faculties of the mind than in all the functions of the body; it shows itself in every organ of our frame, and affects every nerve and fibre of the system; the absorbing, the circulating, and excreting system of vessels, are all affected by it; in a word, it is omnipresent; it has no one pathognomonic symptom, but is constituted by a concourse of symptoms, and these variously combined in the various forms that fever assumes, depending upon the cause whence it proceeds, and the condition of the body in which it occurs."†

In rejecting the doctrine of Broussais as to the local origin of fever, we entirely concur with Armstrong in the opinion, that inflammation is the product of preceding excitement, and that its particular seat is determined by the previous condition of the organ which it attacks; this condition is a debility of the organ affected.‡ From what we have seen we think the head is most frequently affected.

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* Med. Chir. Review, Jan. 1825, p. 16.

† Appendix to Thomas's Practice, p. 948.

‡ Ferriar long ago advanced this opinion; he says, that "during the increased action of the circulating system, if any part of the body be originally weak, or have been rendered infirm and irritable by preceding disease, congestion and its consequence may be expected there." Med. His. p. 150.

Congestive Typhus. Previous to the appearance of Dr. Armstrong's admirable work on typhus fever, this form of the disease had not attracted the attention it merited from physicians; and, in fact, we knew little or nothing of its nature. In the works of Sydenham we find the first particular notice of congestive fever; he relates the circumstances of one case only, but from the confident tone in which he spoke of what would be the effect of venesection in it, we may fairly presume that he had met with cases of the like description before. In allusion to this particular form of the fever, he remarks, "that all the symptoms proceed from nature's being in a manner oppressed and overcome by the first attack of the disease, so as not to be able to raise regular symptoms adequate to the violence of the fever; all the appearances being quite irregular. For the animal economy being disordered, and in a manner destroyed, the fever is thereby depressed, which in the true natural order generally runs high. I remember (continues he) to have met with a remarkable instance of this, several years ago, in a young man I then attended; for though he seemed in a manner expiring, yet the outward parts felt so cool, that I could not persuade the attendants he had a fever, which could not disengage and show itself clearly, because the vessels were so full as to obstruct the motion of the blood."* After the time of Sydenham, no particular notice appears to have been taken of congestive fever. It is true, that Drs. Jackson and Clark, almost a century after, gave some imperfect account of it; but until the appearance of Armstrong's work, our notions of the nature of this fever were very obscure; he has the high merit of having clearly and ably elucidated its pathology; and of having opened a new field for medical enquiry and research. The disease, according to him, consists in an engorgement or distension of the large internal veins; and differs from his other divisions of typhus in having no stage of excitement or reaction of the heart from the first shock of the disease. We cannot do better than copy his description of the symptoms of congestion; they are portrayed in his best style. "The attacks (says he) of the most dangerous forms of the congestive typhus are generally sudden, and marked by many remarkable symptoms: an overpowering lassitude; feebleness of the lower limbs; deep pain, giddiness, a sense of weight in the encephalon; a dingy pallidness of the face; anxious breathing; damp, relaxed, or dry withered skin; and those peculiar conditions of the temperature which have been noticed above.* The pulse is low, struggling, and variable; the stomach irritable; frequently there is an inability from the first to hold up the head; and the mind is more often affected with dulness, apprehension, and confusion, than with delirium. The whole appearance of the sick impresses the attentive practitioner with the idea, that the system in general, and the brain in particular, are oppressed by some extraordinary load. Both the manner and look of the patients undergo early and great alterations; sometimes they slowly drawl out their words, or utter them in a hasty and yet imperfect mode, like people who slightly stammer when embarrassed; they not unfrequently seem as if stunned by a blow, half drunk, or lost in a reverie; and at times have the bewildered aspect of persons suffering under the first shock of an overwhelming misfortune. The eye is occasionally glassy and vacant, without redness; but at other times it is heavy, watery, and streaked with blood, as if from intoxication or want of sleep. At the commencement the pulse is often less altered as to frequency than might reasonably be expected, yet in general it becomes very rapid towards the close; the tongue is usually little altered in the first stage; but in the last, it is frequently rough, foul, and brown; the bowels are mostly very torpid in the beginning, and the stools procured dark and scanty; whereas, in the last stage, the bowels are generally loose, and the stools copious and involuntary. Eructations are not uncommon at all times, and the epigastric region is often much inflated. On account of the general torpor, the secretions are diminished or suppressed; and, as justly remarked by Dr. Robert Jackson, the skin is often in that peculiar state, that if blisters be applied, they either do not act at all, or so defectively, as to leave the appearance as if the part had been seared by a heated iron. Petechiæ in general appear earlier in these than in any other varieties of typhus; and in the last stage there are sometimes gangrenous spots on the extremities, oozings of blood from the mouth and nostrils, and hemorrhage from the bowels."†

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* Wallis's Sydenham, vol. 2, p. 351.

"There are comparatively milder forms of congestive typhus, in some of which the patient walks about for a few days after the infection has begun to operate, and complains little, except of uneasiness of the head, loss of appetite, and languor, appearing rather paler than when in health. If strictly attended to, however, by a medical observer, a change may usually be remarked in his whole demeanor; he cannot as steadily command his attention as before, is not only restless during the day, but watchful at nights, and soon betrays an absence of mind or loss of memory. At length he becomes garrulous like a half drunken person, or talks inconsistently with his former views and character; after the lapse of a day or two the mental confusion is most obvious to every one—he begins to be unsteady in his gait, and has a heavy intoxicated cast of countenance. If carefully examined at this period, his tongue will be found white, his pulse small, quick, and perhaps irregular; his breathing hurried; his bowels slow; his skin rather hot about the trunk, but coolish and damp on the extremities. If the disease be allowed to proceed, without decided interruption, the hands shortly become tremulous, and the confusion of mind passes into delirium; yet there is still a want of regular excitement, demonstrated by alternate flushing and paleness of the face, the feebleness of the pulse, the unequal state of the whole circulation, the coolness of the extremities, the partially concentrated heat of the trunk, and laxity of the skin. Aural and visual deceptions succeed, and force the patient into violent exertions, and every attempt to overpower him by coercion tends to aggravate the delirium and sink the strength. His tongue grows daily fouler and his debility greater; he begins to pick the bed clothes; and, at last, petechiæ and subsultus tendinum appear. About this period, the general turbulence sometimes unexpectedly abates, and he may become as serene and rational, as to give hopes that a favorable crisis has taken place; but the calm is most frequently deceitful, being soon followed by a universal collapse, in which death occurs, mostly without much struggling. Several cases, nearly answering to the above description, have fallen under my notice, and I have found, that if opportunely and properly encountered, they may generally be subdued; but that if overlooked or improperly treated in the commencement, they will commonly baffle the best directed measures."* There are some other modifications of congestive typhus, which it is deemed unnecessary to take up time and paper to relate, because from what has been said the disease may be easily detected in all its different shapes.

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* "Shrivelled cool skin."

† Armstrong on Typhus, p. 74.

Prognosis. The prognosis in congestive typhus, is to be drawn from the character of all the symptoms present in the disease. If these should become worse, if the delirium should increase, the pulse should continue to sink, the breathing to grow worse, the skin become colder, and the stools be passed involuntarily, it will generally terminate fatally. If, on the contrary, the reverse of this should take place, then we may anticipate a favorable termination.

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* Armstrong on Typhus, p. 75.

Pathology. The nature of this fever obviously consists in an accumulation of venous blood in the interior of the body. The cause of this fever, whatever it is, acting either directly or indirectly on the heart,* produces weakened action of this organ, and this latter necessarily causes an accumulation of blood in the venæ cavæ and their branches; less blood than usual being sent to the surface, paleness and shrinking of the features and surface of the body is the necessary consequence. This state of the circulation, in a greater or less degree, is common to the first stage of all fevers; the heart, however, usually reacts under the pressure of venous blood, and drives it with increased force to the exterior, when the fulness of the features and the warmth and color of the skin return; but if, from any cause, the heart should fail in recovering its energy, then we have a continuance of those symptoms which characterize congestive fever. Whether, however, the cause (i. e. weakened action of the heart) assigned for this accumulation be the correct one or not, dissections demonstrate beyond doubt its existence. Armstrong says, that "In examining the bodies of some patients who had died in the most concentrated attacks of congestive fever, I have found the right side of the heart loaded with dark blood; and, in reflecting upon the phenomena of all, am now inclined to believe, that their pathology is intimately concerned with the functions of the right ventricle. For (continues he) when the action of the right ventricle is diminished, and when it is overloaded by too great an accumulation of blood, it must, by consequence, occasion a remora of venous blood in distant organs; and a sufficient portion of red blood not being thereby returned to the left ventricle, its action, also, must be defective, and its blood not sufficiently oxygenized for the complete purposes of vitality."* The whole of this extract is highly valuable and important, as establishing by post mortem examination the pathology of this form of fever; but a part of it, we think, deserves particular attention, inasmuch as it may serve to explain the cause of the sudden deaths which frequently take place during the prevalence of mortal epidemics. I allude to that part in which he says, that "an accumulation of blood about the heart must produce a remora of venous blood in distant organs." Or, in other words, if the right side of the heart be full and distended with blood, this fulness must extend itself into the cavæ and their branches; following, therefore, the ramifications of the superior cavæ, we find this fulness and distension extending up the jugulars, from thence through the foramen lacerum into the larger sinuses of the dura mater; when, therefore, this accumulation is already very considerable, if, from any cause, it should suddenly increase, it may produce such pressure on the brain as to cause the person to drop down as if in apoplexy. Armstrong, indeed, says, that "the most violent forms of the congestive typhus, resemble apoplexy in their symptoms, to which, indeed, they often have a near affinity in their pathology."† This is the best explanation we can offer of those sudden and occasionally instantaneous deaths which sometimes occur during the raging of violent fevers.

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* When reflecting on the *modus operandi* of the remote cause of fever, we have often been astonished, that all writers on the subject should have fallen into the error of overlooking its effect upon the action of the heart; and to have confined their observation to the effect (secondary and consecutive) produced on the cutaneous vessels. Thus Armstrong, in his essay on Scarlet Fever, says, "One of the most obvious operations of contagion, like that of dolc, is a change of action in the cutaneous vessels, and a recoil of blood from the surface towards the centre." Now, it is perfectly obvious that the action of the cutaneous vessels is dependent on that of the heart; if the action of the latter is weak, so likewise will be that of the former—if strong or vigorous, so will be that of the cutaneous vessels. So long, therefore, as the heart preserves its action unimpaired, the cutaneous vessels must continue in the same state; but the moment that this is weakened, we then observe this "change of action in the cutaneous vessels," which Armstrong considers to be the primary and direct effect of the operation of contagion, and the first link in the series of effects which constitutes fever. In consequence of this weakened action of the heart, less than the usual quantity of blood is sent to the surface, and as the skin is generally flushed, and the features full and expanded, when this action is exalted and vigorous, in fever for example, so likewise when it is weakened we have paleness of the face and shrinking of the features and surface of the body. The phraseology of Armstrong is incorrect and calculated to mislead, when he says that contagion produces "a recoil of blood from the surface towards the centre;" for it would seem from this that the cause of fever impressed upon the contents of the cutaneous vessels a centripetal direction, which is palpably absurd. The reader will find this subject most ably discussed in a work on the practice of medicine by John E. Cooke, M. D., Professor of the Practice of Medicine, in the University of Transylvania, a book containing more sound and original views, and a more correct pathology, than any with which we are acquainted

Treatment of Typhus Fever. As our opinion of the character and pathology of typhus fever differs as entirely from that of those who consider it a disease of debility in all its stages, so likewise will our treatment be almost diametrically opposite. We think that death not only in this, but in all fevers, rarely arises from mere debility, but from the effects of too great excitement and inflammation upon some part essential to life; our object, then, is to keep both the one and the other, if present, in a state of proper subjugation, by the steady cooperation of those remedies which are in their character strictly antiphlogistic; and we think that these, when timely and judiciously applied, will seldom fail in producing the desired effect. We do not wish to be understood as pursuing exactly the same practice in every instance; for we know that cases often occur, in which it is not necessary to bleed, or even to use very active purgation; all we wish to inculcate is, that the antiphlogistic principle of treatment is to be rigidly adhered to, whether the disease be mild or severe; leaving to the judgment of the physician the proper adaptation of the means to the *grade* of the fever. And first of

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* Essay on Typhus, p. 84. † Ibid p. 81.

Bloodletting. The great value of this remedy in fevers has been known almost since the origin of medical science, and though amid the vicissitudes and revolutions which have been, and are still going on, it has been alternately praised as of indispensable utility, and rejected as pernicious in the extreme, its efficacy appears now to be indisputably established. Some of the ancient physicians were much in the habit of using it. Galen and Celsus thought it one of the most valuable remedies in pestilential disorders, and we are told by Prosper Albinus that the Egyptians let blood in fevers of a putrid tendency. The Arabian physicians, also, frequently made use of phlebotomy in the fevers of that country. The great advocate for bleeding in more modern times is the great Sydenham; he employed it freely in many diseases, and used it in the very fever now under consideration. After contending for the inflammatory nature of the disease and the necessity of curing it by "a suitable method and medicines," he says, that "in order to do this, I direct ten ounces of blood to be taken away from the arm, and, in effect, though the blood in this fever generally resembles pleuritic blood, yet it does not well bear repeated bleeding. But if a difficulty of breathing or a violent pain in the head in coughing, and other symptoms of this kind, show the tendency of this disease to bastard peripneumony, bleeding and purging are to be repeated, till the symptoms entirely disappear."* From this extract we learn, that in mild cases, "repeated bleeding" was not borne well; but that if symptoms of local inflammation supervened, then the patient was to be bled and purged, till the symptoms were removed. These remarks are strikingly applicable to the fever as it appears at the present day: there are many cases which either do not require bleeding at all, or demand but the loss of a small quantity; such cases, of course, would not "well bear repeated bleeding," but, on the other hand, cases occur, such as related by Sydenham, in which we must bleed again and again, until the symptoms are subdued.

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* Wallis's Sydenham, vol. 2, p. 319.

Bleeding, in severe cases of typhus, must be used early in order to derive full benefit from the remedy. If we discover from the symptoms that an acute inflammation of some vital viscus threatens the life of the patient, we cannot commence our operations too soon. We should draw blood *pleno rivo*, and not rest satisfied with a small dribbling stream; the first mode of bleeding is infinitely preferable to the last, as it effects a more speedy reduction of the pulse, and sooner brings on a state of fainting, which is much to be desired in very violent cases, as it is accompanied with vast relief to the inflamed organ.* If the heart should react under this loss of blood, and the symptoms of inflammation reappear, we should, without hesitation, open the vein a second time, and bleed until the patient is relieved. It rarely happens that bleeding thus early and decisively does not entirely remove the inflammation; and though the febrile action may continue for some days after, it is easily kept in check by the use of purgatives, &c. This vigorous practice is only intended for the most exalted grades of this fever. It is every way preferable to the halfway temporizing measures of timid physicians, who will sooner bleed ten ounces every day for a fortnight, than, by one or two copious bleedings in the commencement, extinguish the inflammation and sometimes the fever at once; and in this way producing much less debility, than by pursuing the opposite and much more precarious course. We are by no means to be deterred from this treatment by the appearances of great debility which often present themselves in the commencement of this fever; these are deceptious; beneath them lurks a disease of the most speedily fatal character; which, if not unmasked and detected, will soon destroy the patient. The language of Armstrong on this subject is full of wisdom. "If the topical affection (says he) has been but of short continuance, and the vigor of the constitution be merely weighed down, and not really exhausted, let him discard the fears associated with false doctrines, and promptly abstract blood according to the seat and extent of the inflammation, and till local pain and general oppression be relieved."

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* We have a striking example of the powerful effect of bleeding *ad deliquium*, or until a sensation of faintness or sickness is produced, in cases of violent ophthalmia. The tunica conjunctiva, which before was as red as the presence of arterial blood could make it, will be found almost completely blanched, and the pain and tension of the eye surprizingly relieved.

In severe and violent cases of typhus, there is scarcely any remission, but in the milder, there is generally some little abatement of the symptoms; in such cases it is always best to use the lancet during the period of the greatest exacerbation, or acme of the fever.*

We have before said that cases of fever often occur, which do not require the lancet at all; but that they might safely be trusted to remedies whose operation, though strictly antiphlogistic, were yet inferior in point of power to venesection, such as cathartics, abstemious regimen, &c. There are likewise many cases in which the symptoms of inflammation are so slight, that though bleeding would be proper to lower arterial excitement and thus prevent an increase of the topical affection, yet a much smaller quantity will suffice for this purpose than in the more violent instances.

. We trust that in the remarks made on bleeding, we have not evinced an overweening confidence in this remedy. It is certainly one of Herculean powers, and as such ought to be employed with caution. We believe the reputation of this noble remedy has often suffered from its having been mistimed, and from its having been used in insufficient quantity. It is mistimed when it is used after inflammation has continued for several days, and when irreparable injury has been inflicted on some important part; under such circumstances, we need not say that bleeding will be unavailing; nay, worse, it will only hasten death. It is, also, often used in insufficient quantity. We are too frequently palsied by apprehensions of debilitating the patient too much; "But if our fears be so great, and we take away so small a quantity of blood, how is it possible to judge exactly what good or mischief bleeding may do? For, if a disease (which requires four pounds of blood to be taken away in order to its cure, and yet but one is taken away) destroys the patient, it does not, therefore, prove destructive because bleeding was used, but because it was performed in an improper and, perhaps, unreasonable manner."* We have quoted the remarks of Botallus on bleeding in plague, because, we think, they are equally applicable to typhus and other fevers, and because they illustrate in a forcible manner the inadequacy of small bleedings to cure diseases which require copious abstractions of this fluid for their removal.

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* It is not a little singular that some of the ancient physicians should have recommended a different course; they thought that to open a vein in the height of the fever was death; thus Celsus says, "si vehemens febris urget, in ipso impetu ejus sanguinem mittere hominem jugulare est: expectanda ergo intermissis."

There are some symptoms of typhus which have been supposed to indicate great debility, and a putrid tendency of the fluids. These are petechiæ and a dissolved state of the blood. These symptoms have been supposed to forbid any thing like depletion, and to demand an opposite course of treatment. We do not deny that where these symptoms make their appearance late in the fever, when the constitution has been shattered by the unrestrained continuance of a mortal disease, depletory measures would be improper; but we by no means agree that they evince any thing like putridity of the fluids or even a tendency to it; this we consider to be totally incompatible with the laws of vitality. When, however, these symptoms show themselves early in the disease, we believe that they indicate a fever of unusual violence, and one which demands active and energetic measures for its relief. Sydenham thought that petechiæ were indicative of a highly inflammatory state of the system; for, when speaking of the benefits of a low diet and cooling regimen in this fever, he remarks, that "it must be indispensably enjoined, when the patient is attacked with a phrenzy, *petechiæ*, purple spots, or any other sign of violent inflammation, occasioned by an overheating regimen."† Petechiæ are very often brought out by such means as excite and inflame the system. Sydenham, to whom we always refer with pleasure, remarks in his "Essay on the rise of a new Fever," "that petechiæ frequently appear, occasioned by an unreasonable use of cordials, and a hot regimen."‡ De Haen, also, says, that the German physicians of his day, converted common fevers, by the use of the "regimen calidissimum," "into the petechial and miliary."|| On the contrary, symptoms indi-

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* Botallus on Plague. Wallis's Syd. vol. 1, p. 130.

† Wallis's Syd. vol. 2, p. 325.

‡ Ibid, p. 317.

|| Thes. Sist, p. 35.

cative of a malignant putrid character, are moderated or prevented by pursuing an antiphlogistic and cooling plan of treatment. In proof of this we have evidence handed down to us, by the bright luminaries of the profession in times that are gone. Sydenham, after contrasting the two methods of treatment, says, "so, likewise, if I find, in the fever under consideration, that the more the patient is heated, the more he is disposed not only to phrenzy, purple spots, *petechiæ*, and the like symptoms; but farther, that the fever, by this procedure, is attended with all sorts of irregular and violent symptoms; and, on the other hand, if it appears that another patient, by treating him according to the method here proposed, (i. e. the antiphlogistic plan,) is quite free from such symptoms, reason shows that the latter method of practice is much the best."* De Haen, who was a strong advocate for the inflammatory nature of this fever and, of course, for venesection, says that petechiæ never appeared in it when he had the management of it from the beginning. "Liceat ne addere, (says he,) quod et medici complures et ego in nosocomio, sive in vigore morborum, sive eorundem in fine, nunquam nostris in ægris, quibus a principio affueramus arbitri, miliaria deterimus;"† and in the same work expresses his belief, that petechiæ would but seldom appear, even in the plague itself, if the antiphlogistic method of Botallus and Sydendam was strictly followed. Dr. Dickson, in his remarks on the contagious fever which prevailed on board the Russian fleet, after mentioning that the appearances on dissection of those who died of this fever were "strongly illustrative of the frequency of visceral inflammation," observes "that from reflection on numerous facts, it seemed to him an

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[*] Wal. Syd. vol. 2. p. 354–5.

[†] Although, in the above extract, the miliary eruption is mentioned as being prevented from appearing by bleeding, &c., yet as De Haen considered this eruption as nearly the same with the petechiæ, and that those means which prevented the one would also prevent the other from appearing, and that the same remedies would equally remove both when present, we have taken the liberty to quote it in this place as equally showing the effect of bleeding in preventing the appearance of petechiæ. That De Haen considered the petechial and the miliary fever as very nearly related, and that the remarks he made upon one were equally suited to the other, is perfectly obvious from the following extract taken from the end of his section de Febre Petechiali. He says, "Multa de petechiis dicenda supersunt; maxime de iisdem tum proveniendis, antequam fiant; tum cum adsint, curandis; verum cum hoc quoque ad miliarium eruptionem pertineant, ipsaque miliarium historia eam pectuarum elucidet, atque explanet, una fidelia hunc utrumque parietem dealbabo." This quotation, we hope, will be a sufficient justification for using the above extract as we have done.

inevitable conclusion, that those remedies which arrest inflammation at the commencement, prevent the graver and malignant symptoms, which characterize the last stage of such fevers; and this conclusion was amply borne out by the results of his practice, since bleeding and purging at the beginning were generally successful."* Rush, in his "Defence of Bloodletting," remarks that Dr. Morton describes what he called a putrid fever, which was epidemic and fatal, in the year 1678. Dr. Sydenham, who practised in London at the time, takes no notice of this fever. "The reason of his silence (says Rush) is obvious. By copious bleeding, he prevented the fever of that year from running on to the gangrenous state, while Dr. Morton, by neglecting to bleed, created the supposed putrid fevers which he has described." The importance of this subject will, we hope, be a sufficient apology for our having dwelt on it at some length. We consider it of great importance in a practical point of view to have correct notions on this subject. If we adopt the opinions of those who consider the appearance of petechiæ as at all times denoting debility, and a tendency to putrefaction in the fluids, and on this account to be treated by tonics and stimulants, we will most unquestionably do much injury. From our own experience, and from the testimony of others, we firmly believe that, when occurring early in the fever, they indicate a high grade of disease, which must be combated by active measures of treatment,† and so long as the pulse preserves its strength, we may deplete regardless of their presence.

As to the dissolved state of the blood, if it occurs early in the disease, and the other symptoms do not forbid the use of the lancet, we should proceed as though it did not exist. Rush considered it as indicating a highly inflammatory state of the system. In his history of the yellow fever of 1793, he says, "I paid no regard to the dissolved state of the blood, when it appeared on the first or second day of the disease, but repeated the bleedings afterwards in every case, when the pulse continued to indicate it. It was common (says he) to see sizy blood succeed that which was dissolved."

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* Armstrong on Typhus, p. 154.

† Doctor Rush, in his account of the yellow fever of 1793, remarks, that "the presence of petechiæ did not deter me from repeated bloodletting, when the pulse retained its fulness or tension." After mentioning instances of its success, he says, "I find precedents in De Haen and Dr. Sydenham in favor of the practice. So far from viewing these eruptions as signs of putrefaction, I considered them as marks of the highest possible inflammatory diathesis. They disappeared in each of the above cases after bleeding.

Cathartics. Cathartics, next to venesection, are, unquestionably, the most important remedies in this fever. Unlike bleeding, however, they are not only admissible, but, in a greater or less degree, are demanded, in every grade and in almost every stage of the disease. The ancient physicians were much in the habit of employing purgatives in fever and other diseases; the number of such articles then in use was comparatively limited, and they were very rough in their operation. Sydenham, in more modern times, carried the practice of purging to a very considerable extent. After his time, however, and previous to the revival of the practice of purging in typhus by Hamilton, cathartics had been in a great measure neglected in the cure of fever; particularly in that under consideration. Brown, in accordance with his belief of the asthenic character of typhus, of course, rejected them; and Cullen placed but little confidence in them, and generally substituted enemata in their stead.

We have said above that Hamilton revived the practice of purging in typhus. This assertion has not been made without due consideration, and only from a conviction that we ought, in matters of science and discovery, as in other things, to "render unto Cæsar the things that are Cæsar's." Hamilton certainly deserves great credit for shaking himself loose from the doctrines of his day; but he has no claims to originality in prescribing purgatives in typhus fever. If we refer to Sydenham, we shall find that he used them freely; and in the very disease now under consideration placed his chief reliance on bleeding and purging for its cure. In his "Essay on the rise of a new Fever," (which is, as was before mentioned, the typhus of the present day,) after recommending the use of purgatives and bleeding, he remarks that, "the method just recommended is the best I ever tried in curing this fever; and if it fails of effectually removing it, at least brings it to intermit, and then it always yields to the bark. But as purging, as it is here directed in order to cure this fever, may perhaps seem detrimental to some persons, I assert from experience, that nothing cools so much and so surely as purging after bleeding." After assigning some reasons for their beneficial effects, he says, "For these reasons, therefore, I hope I may assert, on good grounds, that *the method of cure above delivered, which consists in bleeding and purging, is the most effectual one* to conquer most kinds of fevers;"* and in other passages he enforces the same practice. It will be seen from the above extracts, that nearly a century anterior to the time of Hamilton, Sydenham prescribed purgatives in this disease from the beginning, and recommended them, conjoined with venesection, as the best cure for most kinds of fever.*

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* Wallis's Sydenham, vol. 2, p. 344–5.

Hamilton, it seems, was led to the employment of purgatives by mere accident: he says, "At the time I was appointed physician to the Royal Infirmary, the cure of typhus was thought to consist chiefly in the removal of atony and spasm of the vessels of the surface of the body. For this purpose, among other remedies weak antimonial wine and nauseating medicines were freely given. The state of the stomach and bowels, after the exhibition of an emetic and purgative on the first approach of the attack, was little regarded in the after periods of the fever. An occasional stool was procured by a mild glyster, while a purgative medicine was given with extreme caution. Apprehensions were entertained that the operation of a purgative would rivet the spasm of the extreme vessels, and increase debility, one of the supposed direct causes of death in fever. These apprehensions (continues he) may still bias the practice of many, as they certainly did bias mine, for a long time." An unusually malignant typhus fever, however, breaking out in Edinburgh, in the summer of 1779, and being unable to cure it by the mild antimonials, Hamilton was induced to resort to the *calx antimonii nitrata.* "This antimonial remedy (says he) was not ineffectual; but I remarked that it was beneficial only when it moved the belly. The stools were black and fœtid, and in general copious. On the discharge of these the low delirium, tremors, floccitatio, and subsultus tendinum, which had prevailed, abated in some cases; the tongue, which had been dry and furred, became moister and cleaner, and a feeble creeping pulse acquired a firmer beat. Reflecting afterwards on these circumstances, it occurred to me, as the purgative effect appeared to have been the useful one, that any purgative medicine might be substituted for the calx antimonii nitrata, and that by this substitution, the unnecessary debilitation of an exhausted patient, by vomiting and sweating, might be avoided."

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* It has, we think, been too much the custom to overlook the practice of Sydenham, and to consider his great excellence to consist in his unrivalled descriptions of acute diseases. We, however, look upon his writings in a very different light: he certainly deserves great credit for his accurate account of diseases, but we by no means consider it as his highest praise. The improvement he made in the treatment of smallpox is enough to immortalize any one man, and his mode of curing fevers and the phlegmasiæ has been but little improved on even at the present day. There is one striking instance in which his claims to originality of treatment are almost entirely overlooked, and all the credit assigned to Hamilton. I allude to the method of curing St. Vitus Dance. He used identically the same routine of practice in this disease which is followed at the present day upon the authority of Hamilton. Any one may satisfy himself of the truth of this by consulting his works.

"More extended experience confirmed these conjectures; and I was gradually encouraged to employ purgative medicines early in typhus, and to repeat them in the course of the disease; and after having long and strictly directed my attention to this point of practice, I am now thoroughly persuaded that the full and regular evacuation of the bowels relieves the oppression of the stomach, and mitigates the other symptoms of fever."*

These extracts are interesting and useful, as they give the experience of an accomplished and practical physician; and as showing the gradual dawning of light on a mind clouded and fettered by the scholastic doctrines of the day.

Huxham, however, anterior to the time of Hamilton, had remarked the great and surprising relief experienced from the free discharge of dark bilious matter from the bowels. In his essay on "malignant putrid fever," he remarks, that "unquestionably the bilious principle is too greatly predominant in all putrid, malignant, and petechial fevers. The gall bladder, and biliary ducts, are always found full of black or green bile in those that die of pestilential diseases, and so is the stomach, duodenum, &c. Now, (continues he,) if this putrid bile is not carried off, it grows more and more corrupt, and causes vast anxiety, sickness at stomach, pain, &c.; and, being reabsorbed into the blood, creates infinite evils, greatly irritates the *genus nervosum*, destroys the *crasis* of the blood, and turns the lymph into a corrosive ichor. When, therefore, there are signs of its being redundant, it should be forthwith discharged by vomit or stool, as nature points out. I have many times, with the greatest pleasure, in these putrid fevers, seen an amazing change for the better immediately succeed a fit of vomiting, and a stool or two, when an inexpressible anxiety, load on the *præcordia*, perpetual sickness, *eructation*, and *singultus*, had preceded. The extreme foulness of the tongue, and load at the stomach, with a loathsome bitter taste, and a horrible offensive stinking breath, and eructations, show the condition of the stomach; and the abominably fœtid, black, bilious stools, the necessity and advantage of that discharge."† This extract from Huxham, though a long one, is, we conceive, highly valuable, inasmuch as it informs us of the state of the gall bladder, biliary ducts, stomach, and duodenum, after death from this fever, and mentions the effect which a retention and reabsorption of this dark bile has upon the genus nervosum. The first points out the indispensable necessity there is for cathartics, and the last teaches us that many of those nervous symptoms incident to the disease, and which have been supposed to proceed from debility, and treated as such, are to be attributed to a retention of this black bile, and can only be relieved by its evacuation.

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* Hamilton on Purgatives, p. 29.

† Huxham on Fevers, p. 94.

Even among those, however, of the present day, who agree upon the utility of free purgation in this fever, there is much diversity of opinion as to the kind of cathartics which are best adapted for this purpose. While some proscribe the use of calomel and all other active purges, and rely on laxatives almost entirely to effect the evacuation of the bowels, there are others who look upon it as the sheet anchor of hope, not only in this, but in most other fevers, and prescribe it with a degree of boldness and daring perfectly astonishing to those who are accustomed to administer it only in five or ten grain doses. Either practice may be carried to extremes, but of the two, in severe cases of fever, we should greatly prefer the bold exhibition of active remedies to the milk and water practice of those who would altogether exclude such means from the treatment of fever. We have always been the steady and constant friend of the use of calomel in fever; but in ordinary cases we believe its moderate to be just as beneficial as its extravagant exhibition, with this advantage, that there is less risk of producing that painful, disgusting, and sometimes fatal affection of the mouth, a salivation. This Hercules of the materia medica is not to be rashly dealt with, without often leaving behind the most lamentable and distressing consequences of its maladministration. When judiciously used, however, it may truly be said to be an invaluable remedy; there is no article in the whole materia medica which so effectually discharges that dark bilious matter, which affords so much relief in fever. It is customary to combine it with some other cathartic, and we know of none better than jalap; ten grains of each for an adult, administered every two hours, until the bowels are freely evacuated, constitutes as effectual a purge as can be used. This combination was much employed by Dr. Rush in the yellow fever of 1793, and it was then called a dose for a horse; what would they who so called it have thought of sixty grains of calomel as a common dose? Jalap, however, to some stomachs is so exceedingly nauseating and offensive, that we are obliged to substitute something in its stead; this may be done by adding the same amount of scammony to the calomel, and administering it in the same way. Scammony has hitherto been but little used on account of its supposed drastic and harsh operation, but from repeated experience we can declare that it is less so than jalap, and is equally effectual in evacuating dark bilious matter. Another mode that we have found very effectual in evacuating the bowels, and lowering the action of the heart and arteries, is to administer calomel alone, and some time afterwards give a strong infusion of senna, with either Epsom or Glauber salts. This generally operates most copiously, the discharges being very thin; it is, therefore, only suited to the beginning of the disease, when the strength is but little impaired, and to those of strong constitutions; it is very apt to prostrate the thin and delicate too much. The cathartics are to be repeated day after day, until the fever is subdued; when, however, it has continued for some time, and the patient is much weakened, we generally combine aloes with the calomel and jalap, to render the discharges more consistent. The following is the prescription in general use:

Calomel, ʒss:
Jalap, ʒi. } M. D. in pil: xxx.
Aloes, ʒi.

Four or five of these pills given, and repeated according to circumstances, will generally operate freely enough. The discharges produced by this combination, are much more consistent, and, of course, less debilitating, than those by calomel and jalap alone. If, at any time during the exhibition of these pills, the mouth should become sore, the calomel must for a while be discontinued, and the same quantity of aloes and jalap be given alone; this combination is the very best substitute for calomel that we are acquainted with. When the patient is fairly convalescent, it is necessary to pay much attention to his bowels, if they should not be sufficiently open; then two or three of the above mentioned pills ought to be given. There are, however, other articles, which, for this latter purpose, answer very well, such as castor oil, magnesia, &c.

The above practice is suited to those cases in which the bowels are easily operated on. Cases, however, of great torpor sometimes occur, in which it is impossible to obtain an operation by the usual doses. In such, it is idle to limit ourselves to a certain number of grains; we must exhibit cathartics in doses *sufficiently large to purge*, for without this the patient will die; we believe that the safety of the patient in fever, depends upon a continued evacuation of bile from the bowels, and keeping the action of the heart and arteries in proper control by the other antiphlogistic means; we must then judge of the necessity for an increase of the dose, by the effect produced, and not by the number of grain's given. Fortunately cases of such extreme torpor of the bowels are rare; but when they do occur, they are only to be managed by the most bold and intrepid exhibition of medicines; in the language of Hippocrates, "ad extremos morbos, extrema remedia sunt exquisite optima." The next remedy in point of importance is

Cold Water. Cold water was much used, both internally and externally in fever, by the Greek and Roman physicians, some of whom relied upon it exclusively as a means of cure. We find mentioned, by both Celsus and Galen, that Petro, a physician who flourished a considerable time after the death of Hippocrates, attempted to cure fever by copious draughts of cold water. It appears from the description of his method, given by Celsus, that in cases of fever, he first caused the patient to be covered with a good deal of clothing, in order that he might excite in him great heat and thirst, and then commenced the profuse administration of cold water.*

The use of cold bath was introduced at Rome during the the reign of what was called the methodic sect. From its having been first successfully used in the case of the emperor Augustus, whose complaint had baffled all the usual applications, it acquired great reputation, and was subsequently used with considerable boldness by some of the Greek and Roman physicians. The Arabian physicians, also, employed it much, both internally and externally, in pestilential diseases. The practice, however, was, in progress of time, lost. During the last century its use was revived by doctors Jackson and Wright.† The following is Dr. Jackson's account of the circumstances which led him to the employment of cold bathing. He says, that "the first hints of this practice were accidental, and arose from a conversation I had with the master of the vessel in which I went passenger to the West Indies. This person commanded a transport in the war of 1756, and was present at the siege of Havana. As he was talking one day of the state of the fleet, he mentioned accidentally, that some men were sent aboard of his ship ill of fevers; several of whom, he observed, jumped into the sea during the delirium which attended the paroxysms of the disease. Some of them, as might be expected, were drowned; but the most part of those who were recovered from the waves appeared to be greatly benefited by the ducking. The fact, which, from the veracity of the man, I thought I could depend upon, struck me strongly, and I resolved in my own mind, to bring it to the test of experiment as soon as an opportunity should offer. Neither was it long after my arrival in Jamaica, that I had occasion to visit a sailor whose situation seemed to justify such a trial. The poor man was aboard of a ship, which lay at anchor about a mile from the shore. He had been ill two days; the delirium ran high; his eyes were red and inflamed; his respiration was hurried; he was anxious and restless in a high degree, while, together with those marks of excitement, he was occasionally languid and disposed to faint. His skin being dirty, furnished an ostensible excuse for trying this remedy. But it was previously thought proper to draw some blood from the arm; which being done, some buckets of salt water were dashed on the shoulders. He was now laid in bed; a copious sweat ensued, succeeded by a distinct remission and a total change in the nature of the symptoms." After relating some other instances of its astonishing efficacy, he says, "I shall only add, that I have tried the remedy, in various situations, always with safety, generally with astonishing success; so that I cannot forbear recommending it even at an early period, in

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* Liquidem apud antiquos quosque ante Herophilum at Erasistratum, maxime post Hippocratem fuit Petro quidem, qui febricitantem hominem ubi acceperat, multis vestimentis operiebat, ut simul calorem ingentem sitimque excitant. Deinde ubi paulum remitti ceperat febris, aquam frigidum potui dabat." Celsus Lib. iii. e. g.

† We find it asserted in vol. i. p. 89 of Johnson's valuable work on Tropical Climates, that "it has been practised in the Bengal remittent, time immemorially, among the natives themselves, many a century before a Jackson, a Wright, or a Currie thought or wrote on the subject." To prove this, he introduces an extract from the Oriental Field Sports, by captain Williamson, which we will copy here. "We must, however, (says captain Williamson,) do the natives the justice to allow, that the refrigera-

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ting principle lately adopted by some of our leading physicians, owes its origin solely to the *ancient practice* of the Brahmins, or Hindoo priests, of whom the generality affect to be deeply skilled in pharmacy." And he then adds, "I believe that, if taken in time, few fevers would be found to degenerate into typhus, and that very seldom any determination towards the liver, in acute cases, would occur, were the refrigerating course to be adopted. Often (says he) have I known my servants, when attacked with fever, to *drink cold water* in abundance, and to apply *wetted cloths to their head*, with great success. The former has generally lowered the pulse considerably by throwing out a strong perspiration, while the latter has given immediate local relief."

the fevers of the West Indies."* In the year 1777, Dr. William Wright, of Jamaica, published an account of the salutary effect of ablution with cold water upon himself and others, while laboring under severe fever. This narrative of Dr. Wright excited much interest and drew the attention of many distinguished men to the subject. Among others, Dr. Jas. Currie, of Liverpool, entered into it with much zeal, and soon after enjoyed extensive opportunities of testing its efficacy. On the ninth of December a contagious fever made its appearance in the Liverpool Infirmary, and spread itself rapidly. In this fever he, for the first time, commenced the use of cold ablution, and out of seven cases treated by it not one died; encouraged by his success in this first trial of the efficacy of cold water, he continued to use it freely, both in hospital and private practice, with extraordinary success; and some time after published his admirable work on the use of cold water, in which are contained the results of his extensive experience with it, and the rules which should guide us in its use.

No one can peruse this volume without being convinced, that cold water, when properly applied, is a most important remedy in fever. Its utility is not confined to typhus; it is equally serviceable in all fevers attended with increase of heat and arterial action. Its effect upon the pulse is astonishing in many cases. We have often known the mere bathing the arms and hands of a febrile patient reduce the action of the pulse ten or fifteen beats in the minute; and if this partial application of cold water has such an effect on the action of the heart, how much greater must be the effect of a cold bath? We have many instances on record of its calming at once the most furious delirium; persons in such a situation have often jumped overboard a vessel into the sea, and been taken up perfectly calm and rational, and with an almost complete extinguishment of the fever. With the many strong instances recorded in various works, of its remarkable efficacy in curing fever, it is justly a matter of surprize, that physicians so seldom call its great powers into requisition. It exercises a more immediate control over the action of the heart than bloodletting. Dr. Currie mentions a striking instance of the effect of cool air in reducing the pulse. "In the month of May, 1801, (says he,) I was desired to visit a patient ill of fever in Sparling street. I found him in the tenth or eleventh day of the disease, delirious and restless; the surface of the body dry, and his heat 104° of Fahrenheit. The room was close, and I desired the only window in it to be opened. The wind from the northwest blew directly into this window, and the bed being situated between it and the chimney, a pretty brisk stream of air passed over it. The patient had just thrown off a considerable part of his bed clothes, and was exposed naked to the breeze. I sat by him, with my finger on his pulse, watching the effect. In a little time the pulse fell from 120 to 114 in the minute; he became more tranquil, and soon afterwards he sank into a quiet sleep, in which he remained when the water for affusion was prepared; of course, we did not disturb him;"* he remained exposed to this cold air until morning, when his pulse was found to be about 100, and his heat 101.

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* Jackson on Fevers.

Dr. Rush, in his history of the yellow fever of 1793, relates a similar case to the above. "Dr. Griffits (says he) furnished a remarkable instance of the influence of cool air on the fever. Upon my visiting him, on the morning of the eighth of October, I found his pulse so full and tense as to indicate bleeding; but after sitting a few minutes by his bed side, I perceived that the windows of his room had been shut in the night by his nurse on account of the coldness of the night air. I desired that they might be opened. In ten minutes afterwards the doctor's pulse became so much slower and weaker that I advised the postponement of the bleeding, and recommended a purge instead of it;" and in the next page he remarks, that "cold water, when applied to the feet, as certainly reduces the pulse in force and frequency, as warm water applied in the same way produces contrary effects upon it. In an experiment which was made at my request, by one of my pupils, by placing his feet in cold pump water for a few minutes, the pulse was reduced twenty-four strokes in a minute, and became so small as hardly to be perceptible." These facts teach us, that it is the cold alone which is serviceable, since it has the same effect whether applied in the shape of water or air; and they also teach us the powerful influence it has over the actien of the heart, and the great value of its proper use in the cure of fever.

Cold water may be used either internally or externally, or in both ways. It has been already mentioned that Petro relied entirely on copious drenching with cold water for the cure of fever; and about the middle of the last century (1752) a treatise was published on the internal use of cold water, under the title of "Febrifugum Magnum," by Dr. Hancock London. The most effectual way, however, to derive full benefit from the action of cold, is to use it in both ways; the same principle which would induce us to resort to affusion, would also suggest its internal administration. The latter is generally so consonant with the patient's inclinations, that there is usually no difficulty in its application, and, therefore, it should always be recommended; the affusion, however, is looked upon by society as disagreeable if not hazardous, and hence, in proposing such a remedy, we have generally to encounter much prejudice. In severe cases, peremptorily requiring the use of active means, we should disregard this feeling; but if otherwise, we may be satisfied with its partial external application. We can always have the feet, arms, and hands bathed in cold water, and cloths dipped in the same applied to the stomach and head. This affords very great relief, and ought never to be omitted.

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* Medical Reports, p. 259.

But cold water is by no means to be used indiscriminately in every case of fever; neither is it to be used in all stages of any fever; the rules which Currie has laid down on this subject are excellent, and cannot be followed too closely. If we obey strictly his directions, we will always be prevented from misapplying or doing injury by its use. He gives separate rules for the external and internal use of cold water; but as its effect, except in degree, is the same when used either way, so one set of rules will answer as a guide for both. His first general rule is, that "It may be used (either internally or externally) *when there is no sense of chillness present, when the heat of the surface is steadily above what is natural, and when there is no general or profuse perspiration.*" We will now give the substance of the particular rules he has laid down on this subject. 1st. "Cold water is not to be used either internally or externally in the cold stage of the paroxysm of fever, however urgent the thirst;" taken at such times it increases the chillness and produces great weakness of the pulse, and if used to any extent might cause the death of the patient. 2d. When the hot stage is fairly formed, and the surface is dry and burning, cold water may be used both ways with the utmost freedom; frequent draughts of cold liquid, and its external application, under such circumstances, are highly grateful; they diminish very much the heat of the body, and lessen considerably the volume and frequency of the pulse. 3d. "It is also necessary to abstain from the use of cold water when the body is under profuse perspiration, and this caution is more important in proportion to the continuance of this perspiration."

We will finish what we have to say on the use of cold water, by a few remarks on its *modus operandi* in curing fever. And in the very commencement we cannot help expressing our surprize, that cold should ever have been considered as a stimulant. If it be such, then is Currie's general rule for the use of cold water an absurdity; for a stimulant would do no injury during the presence of a chill, and would be obviously prejudicial in the heat and exacerbation of fever. However wild and imaginative Brown may have been in many of his notions, his opinion that cold can never act as a stimulant is unquestionably correct. It is so plain a matter that it is unnecessary to argue much about it. We will only state a few positions, the truth of which none can deny. In the first place, if we take a person in health and immerse him in cold water, and then feel his pulse, we will invariably find it small and weak, and it will continue so as long as he remains in the water. 2d. If we immerse a person laboring under a chill, when the pulse is already weak, it will be rendered much weaker and has sometimes been extinguished. 3d. Currie relates many cases of fever, in which the application of cold greatly reduced the action of the heart; in one case, in a very short time, the pulse was diminished eight beats in the minute; and in the case mentioned by Rush, the pulse was lessened twenty-four strokes in a minute, by the immersion of the feet in pump water. These facts unquestionably prove that cold has none of the properties of a stimulant, since it weakens the pulse in a state of health, weakens it still more when already weak, as in a chill, and lessens very much its volume and frequency when in a state of excitement, as in fever. "But," say the advocates for the stimulant property of cold, "if you take a person out of the cold bath, his pulse rises, his skin becomes warm, and his cheeks flushed, and hence we argue that it stimulates the system." In answer to this, we remark, that one might just as well contend that brandy was sedative in its character, because a man that had been intoxicated by it was rendered sober by its withdrawal, as to argue that cold is a stimulant, because the heat reacted when removed from the sphere of its influence. So long as we keep a person in the cold bath, so long will his pulse continue small and weak; but if we remove him from the bath, then his pulse rises; and from what cause? Surely not from the cold, because, having been withdrawn, it has, of course, ceased to operate; but from the increased accumulation of blood about the right side of the heart, which is the necessary and inevitable result of its weakened action, which last is produced by the cold application. We have then a sufficient cause for this increased action of the heart and flushing of the cheeks, in the presence of an unusual quantity of the heart's natural stimulus, without attributing it to cold, which, as we said above, has a directly contrary effect, so long as its application is kept up. These are some of our reasons for considering cold not to be a stimulant. The same facts or reasons, however, which prove it not to be stimulating in its properties, prove it to be sedative in its character. It is from its operating in this way, that we can readily account for its extraordinary effect in fever. It is by diminishing suddenly and very greatly the action of the heart, that a cold bath will calm, almost in an instant, the most raging and unmanageable delirium.

Blisters. Much variety of opinion exists as to the utility of blisters in fever. While some recommend them early in the disease,* others confine their application to its advanced stage, and some there are who reject them in toto;† and there are others still, who think them only beneficial when applied to relieve some topical affection. We are among the latter number. In cases of fever attended with inflammation of some important part, we have often witnessed the most remarkably good effects from their use, and never fail to apply them under such circumstances. We entirely agree with those who deprecate their early application in continued fever, not characterized by some local affection, and even in such cases we should always prefer using free depletion before resorting to them. When applied without the presence of inflammation, they are decidedly injurious; they increase the fever and irritation of the patient, and often prove a source of much torment to him. The language of Fordyce on this subject is exceedingly judicious, and ought to have great weight with all those who believe that experience is the best teacher, particularly in matters relating to medicine. Fordyce was probably as conversant with fever as any man of his day, and therefore when he speaks we should listen with attention. He says, that "Whether exciting inflammation has or has not the same effect in a regular continued fever, which it has in health, can only be known by making the application to the body of a person affected with regular continued fever. As far as the author's experience goes, when any stimulus has been employed so as to produce inflammation, when the patient has become weak towards the end of a continued fever, the only difference which has occurred has been, that phlegmonous inflammation has not produced hardness, fullness, and strength of the pulse, but both phlegmonous inflammation and inflammation of the skin have occasioned greater frequency of the pulse, have rendered it weaker and smaller, and as in health have prevented sleep, and the patient's taking the same quantity of nourishment, and have depressed and deranged the whole system."* Huxham, an old author, and on this account many may think his opinions not entitled to much weight, though we are free to confess that we think not the less of him for that reason, has some excellent remarks on this subject. "What I have said (observes he) of volatile alcalious salts, leads to a reflection on the promiscuous use of blisters in these fevers, which by some are deemed the only *anchor of hope* in such dangerous cases; but I think they are many times too hastily and improperly applied, especially in the beginning, when the fever runs high, and doth not demand a farther *stimulant;* for the action of cantharides is not confined to the skin, but affects the whole nervous and vascular system: now when the irritations and vibrations are already too great, as frequently happens in the beginning of such fevers, they are very injudiciously applied. It is true, indeed, (continues he,) nature may sometimes want a *spur*, nay, often doth so, particularly towards the decline of these fevers, when the solids grow torpid, the circulation languid, the spirits affete, and the sick comatose; but in the above circumstances I have very many times seen very pernicious effects attend their too early application, as obstinate *pervigilium*, *delirium*, suppression of urine, *tremors*, *subsultus*, &c."† We find from this extract, that, though Huxham disapproves of the use of blisters in the early stage of fever, yet he acknowledges the occasional necessity for their use in the last; yet even under the circumstances he has mentioned, we should greatly prefer the use of sinapisms, because they are much more powerful and more immediate in their effect, and are not so apt to produce a troublesome and tormenting sore; this last effect we have often known to occasion much fretfulness and pain to the patient during the whole stage of convalescence. Another objection to the use of blisters in the last stage of this fever, when the debility is extreme, is the probability of their producing gangrene in the part to which they are applied. Sir John Pringle, Clark,

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* Lind remarks, that "In a moderate infectious fever, where the source of infection is not very violent, if twenty patients be blistered, sixteen will next morning be entirely free from headache, heat, pain, and fever."

† Dr. Moore, in his "Medical Sketches," observes, that "Notwithstanding my having watched the effect of blisters with all the attention I am capable of, and formerly with a strong prepossession in their favor, I cannot assert that I ever knew vesications of any use in this disease, (i. e. typhus;) but I have frequently seen the patient teazed by their irritating quality, without their seeming to have any other effect."

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[*] Fordyce on Fever, p. 270. [†] Essay on Malignant Putrid Fevers.

and Lind, and many others, bear testimony to this effect of blisters, when applied to patients under such circumstances.

From the opinions of the distinguished physicians which we have quoted, and from our own experience, we are justified in the conclusion that blisters are inapplicable in the early stage of fever, and that they are rather of equivocal benefit when applied in its advanced stages; used, however, at any stage to relieve topical inflammation, they are of eminent service; they always do most good, however, when resorted to after the pulse has been reduced by proper depletion, and this, indeed, ought always to be done.

When blisters are used to relieve local inflammation, they should be applied immediately over the part affected, or if this be impracticable, then as near to it as possible. Blisters frequently produce a very unpleasant affection of the bladder, called strangury; this can be most generally relieved by drinking freely of flax seed tea, barley water, &c.; if this should fail, we can recommend, as an infallible remedy, the injection of five, ten, or twenty grains of camphor, suspended in about a gill of mucilage of gum arabic.

Bark and Wine. These two remedies were formerly much relied on for the cure of typhus fever, and even at the present day there are many who adhere to this mode of treating the disease. It is, however, one of the relics of exploded error which will soon cease to exist, and is only to be found in those who are fettered by educational prejudices, which they are unwilling or unable to break. If this disease be sthenic in its character, then it necessarily follows, that tonics and stimulants are not the proper remedies for its cure. We believe that bark is never necessary in this fever, unless when it changes to an intermittent type, and here it may be given with excellent effect. We suspect strongly that when bark cures this or any other disease of excitement, it does so by acting as a purge; for we know that when given in any quantity it very frequently acts in that way. Bruce says that bark cured the bilious fevers of Massuah when it operated as a purge. Stimulants we reject not in toto, but almost entirely in the cure of fever we feel the most unrelenting prejudice against them; for it has fallen to our lot to see many cases in which irreparable injury was produced by their improper and unreasonable exhibition.* We have frequently known patients stimulated into a delirium, and sometimes into apoplexy; and we have known them rescued from the latter condition by the supervention of a free bilious diarrhœa, a most convincing proof that the supposed debility of the patient, to counteract which stimulants were resorted to, did not demand such treatment. It is that bugbear debility which frightens us into too early a resort to remedies of such pernicious tendency; and until we can divest ourselves of the fears arising from this delusive source, we will often do wrong by administering them at an improper period of the disease.

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* Stimulants are injurious in proportion to the violence of the fever, and hence they are so destructive in the high grades of the autumnal fevers of this country. Rush deprecated, with all his earnestness and enthusiasm.

However strongly we may be opposed to stimulants as constituting a necessary part of the general treatment of fevers, we yet think them highly important in their proper place, and of indispensable utility under certain circumstances. When a patient is very much prostrated from the long continuance of fever, we may often unite, with great advantage, some stimulant to the means used for subduing the fever. Camphor and wine are the two most frequently resorted to. We greatly prefer the latter to any other kind of stimulant; the camphor, when used in any quantity, almost always producing a most unpleasant delirium. Of the different wines, Madeira is much the best. Armstrong says, that in the advanced stages of typhus he is in the habit of mixing milk with the wine, and under this form he thinks it makes an excellent drink.

It will be seen by the above remarks, that we are decidedly opposed to stimulants, in every stage of the fever, except under the circumstances mentioned. The majority of cases of typhus, when treated properly in the primary stages, will not often require the use of stimulants in the last. Hamilton, some years after he commenced the purgative plan of treatment, says, "I cannot, however, omit remarking, that for some years past I find wine less necessary in fevers than I formerly thought it was;" and every unprejudiced physician, who properly employs depletory measures in the beginning of fever, will acknowledge that stimulants are but rarely necessary in the last stage.

Of the Diet and Drinks. We have chosen to consider the subject of regimen under a separate head, because we think that a proper regulation of it has considerable influence

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their exhibition in yellow fever, and some of the older authors also mention their fatal effects in fevers. Thus Shenkins, in speaking of the famous Hungarian fever, which prevailed so extensively in Europe about the middle of the sixteenth century, says, "omnes qui vini potione non abstinuerunt, interiere, adeo ut summa spes salvationis in viui abstinentia collocata videtur."

over the state and progress of the disease. From much attention to this subject we are convinced that fever is often kept up and protracted by improper articles of diet; the friends of the patient usually betray such excessive anxiety upon this subject, are so much afraid of his dying from mere inanition, and are generally so importunate in their intreaties for more nourishment, and so much dissatisfied with a refusal, that few physicians have fortitude enough to enforce the dietetic plan as rigidly as they could wish, and as would best comport with the interests of their patients. The rigid enforcement of a very low diet in fever is, we think, the only respect in which Broussais' practice ought to be followed.

The ancient physicians were well aware of the great importance of a suitable diet in fever, and accordingly paid much attention to it. Hippocrates permitted the patient to drink freely of cooling beverages, and gave but little nourishment during the first days of the disease. Erasistratus, who lived about two hundred years after Hippocrates, being of opinion that fever proceeded from too great plethora, enjoined a general and rigid abstinence upon his patients. Asclepiades and his followers also prescribed abstinence, but limited its duration to three days; he permitted the patient neither to eat nor drink during this time, and says that in this way the fever was cured *tuto celeriter et jucunde*. The practice of limiting the abstinence strictly to three days was distinguished by the name of diatrition, and those who followed it by the appellation of diatritarii. We find, therefore, from what has been mentioned, that the ancient physicians thought a proper diet a matter of considerable importance in fever.

The regimen during the fever should be of the lightest and most abstemious character. We do not think that we can well err by the utmost strictness on this point; we should literally starve the fever. Animal food should be proscribed as pernicious in the extreme. A cup of barley water, or of weak tea or coffee, twice a day, with a hard water cracker, if the patient should desire it, is generally sufficient for him; he should also be allowed to drink freely of cooling beverages, such as lemonade, apple water, rice water, currant jelly water, toast and water, balm tea, and cold water; here is variety enough to satisfy the most wayward and capricious appetite, and which can be indulged in freely without the fear of injury.

But it is not during the febrile state alone, that we should be particular about the diet of the patient; much attention to it is also necessary during the stage of convalescence. The patient should be permitted to return gradually to his former mode of living, commencing with the lightest and most digestible articles of diet, such as arrow root, sago, tapioca, &c. Animal food ought not to be allowed until he is able to walk about; a too early use of the latter is often the cause of severe relapses, and we are earnestly cautioned against it by most writers on fevers. Thus Huxham, in his account of the malignant fever which prevailed at Plymouth in the year 1740, remarks, that "If any one made use of a flesh or a fish diet, before he had been very well purged, and his recovery confirmed, he infallibly indulged himself herein at the utmost danger of his life;" and Dr. Poissonnier, in his work on the maladies of seamen, says, that "the physicians of Brest have observed, that the relapses in the malignant fevers which prevailed in their naval hospitals, were as much the effect of a fault in the diet of the sick, as of the contagious air to which they were exposed, and that as many patients perished from this cause as from the original fever. For this reason light soups, with leguminous vegetables in them, panada, rice, seasoned with cinnamon, fresh eggs, &c., are all they should be permitted to eat. The use of flesh should be forbidden for many days after the entire cure of the disorder."* In addition to the articles mentioned in the latter part of this quotation, the patient may be allowed to eat moderately of ripe fruit; the pulp of roasted apples is very good; milk and bread may also be allowed him. There is one circumstance, however, which ought always to be attended to during convalescence, which is, to keep the bowels open; if this does not happen spontaneously, it must be effected by the use of laxatives; this is highly important, as it lessens greatly the danger of a relapse. Armstrong says, that he has seldom seen relapses in inflammatory diseases, when the bowels have been kept regular, and the antiphlogistic diet observed.

We have now finished what we have to say on the treatment of this form of typhus, and, from a review of it, it will appear, that all the remedies mentioned concur in the same tendency, i. e. to reduce the action of the heart and arteries, and to remove local inflammation when present. This course of treatment is the necessary and unavoidable result of the opinions we have adopted in relation to the pathology of typhus; if these are correct, if the disease is really one of excitement, and often of inflammation of some vital organ, then it follows, that the antiphlogistic plan of treatment, differently modified according to the grade of the fever, is the proper one. Whether, however, the views of this disease, inculcated by the great Sydenham, proclaimed and defended in modern times by Armstrong and others, and embraced by the humble author of this essay, be true or not, time and the increasing light of the science must decide. The great object in our profession certainly is, to ascertain the true character of disease. If our pathological views are correct, then the practice legitimately deducible therefrom must be correct. It is one of the maxims of the great father of medicine, that he who knows the nature of a disease knows how to cure it, or, as Celsus elegantly expresses it, "Estimatio causæ sæpe solvit morbum;" and all our endeavors should be directed to this point. Until this be accomplished, our practice must partake somewhat of empiricism.

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* Maladies de Gens de Mer. vol. 1, p. 345.

Treatment of Congestive Typhus. It has been already mentioned, that in this form of fever, the system does not react from the first stage of oppression, but continues in this state, in a greater or less degree, according to the violence of the cause producing it. In some cases the prostration is complete; in others, there is a partial and transitory reaction. From the appearances of great debility which present themselves in the commencement of congestive typhus, it has been customary to treat it by the administration of cordials and stimulants; this treatment would be proper enough if the debility was real; but if it is only apparent, if it be the result of that change in the circulation which has been noticed in a former part of this essay, and that (in the language of Armstrong) "it is no more to be accounted positive exhaustion than the loss of muscular power, which precedes and accompanies the treating of genuine apoplexy, to which, in fact, this modification of typhus has often a most forcible resemblance;" then it demands a different treatment. If, then, cordials and stimulants are not to be relied on for the cure of this form of typhus, (though we acknowledge that they are occasionally very useful adjuvants to the other means,) what is the proper plan of treatment? We answer, that our first endeavor should be to remove some portion of that blood, which is, (if we may use the expression,) suffocating the heart's action, by abstracting blood from the system. Under such circumstances we frequently succeed in relieving the heart, in some measure, of its overwhelming load of blood, and, as a necessary consequence of this, raising the pulse; this appears very paradoxical, but it is nevertheless true. Sydenham gives a remarkable instance of this effect of bleeding upon the pulse. In the case of a young man, whose skin was so cool that he could not persuade the attendants he had a fever, and who appeared to be almost expiring, he drew blood freely, with the effect of raising the pulse to such a degree, that it required three or four subsequent bleedings to subdue it: bleeding, however, does not always have this effect; it sometimes weakens instead of raising the pulse. Its producing or not this latter effect is the test of its utility. If the pulse becomes more free and full under the loss of blood, then we may be certain that it is doing good; if, on the other hand, it renders it more feeble and weak, we may be equally assured that it is doing injury. We should therefore always keep our finger on the pulse, and be guided in the quantity to be drawn, by its effect on the beat of the artery; if it should become more full and expanded, we may suffer it to flow; if the reverse, it should be arrested immediately. It is often, however, extremely difficult to draw blood in congestive fever; "the acting of the heart (says Armstrong) is often so much overpowered in the first instance, that the blood merely trickles, or rather oozes, from the punctured vessel, for a considerable time, being much darker and thicker than natural; yet when a few ounces have been drawn, it usually flows with freedom, and becomes finally of a brighter color. Occasionally I have stood over a patient nearly half an hour before a stream of blood could be obtained from a vein, but at last it gushed out in a full current, and was not as easily restrained as in ordinary cases. Many a life (continues he) might be lost by binding up the arm too hastily, and, therefore, the operator should persevere, until he knows whether enough blood can be obtained." If we cannot, however, procure blood from a vein, we must resort to arteriotomy.

The manner of drawing the blood is a matter of some importance; it should not be abstracted suddenly and by a large orifice, but gradually;* by proceeding in this way the heart much more certainly recovers its power. When the action of the heart and arteries have become more free, we ought then to arrest the flow of blood, as any further loss might again render this action weak, and place the patient in a worse situation than he was before the bleeding. "When both the pulse and the general circulation become manifestly freer, (after bleeding,) with a warm moist skin, tepid diluents should be the only beverage recommended; yet, when it still remains oppressed, and the tide of the circulation does not return to the surface, and more especially if blood has been freely drawn, some wine with warm water should be occasionally exhibited, and the patient speedily immersed in a bath strongly impregnated with salt, and at least about the temperature of 100° Fahrenheit's scale. He should remain in the bath till his skin becomes warm, and, on being removed, it should be well rubbed all over with hot flannels, and he ought then to be laid in an aired bed, with bottles of warm water at his feet. This plan, together with tepid wine and water occasionally, will often promote a flow of blood towards the skin, and relieve the viscera from congestion."*

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* Dr. Rush forcibly illustrates the propriety of gradually abstracting blood, in certain states of malignant fever, by comparing the system to "a man struggling beneath a load of two hundred weight, who is able to lift but one hundred and seventy-five. In order to assist him (says Rush) it will be to no purpose to attempt to infuse additional vigor into his muscles by the use of a whip, or of strong drink. Every exertion will serve only to waste his strength. In this situation (supposing it impossible to divide the weight which confines him to the ground) let the pockets of this man be emptied of their contents, and let him be stripped of so much of his clothing as to reduce his weight five and twenty or thirty pounds. In this situation he will rise from the ground; but if the weights be abstracted suddenly, while he is in the act of exertion, he will rise with a spring that will endanger a second fall, and probably produce a temporary convulsion in his system. By abstracting the weights from his body more gradually, he will

But we are not to rely solely on bleeding, the bath, &c. in the cure of congestive fever. After bleeding we should immediately order large stimulating enemata, that the bowels may, if possible, be at once evacuated; and then commence the use of cathartics. Among them calomel is beyond all comparison the best; this given alone, or in combination with jalap, in doses sufficient to act freely on the bowels, will often prove of immense utility. One of the first triumphs of the calomel and jalap practice, instituted by the great Rush in the yellow fever of 1793, was the recovery of an apparently hopeless and desperate case of congestive fever. "The patient (says he) had passed twelve hours, before I began to give him this medicine, without a pulse, and with a cold sweat on all his limbs. His relations had given him over, and one of his neighbors complained to me of my neglecting to advise them to make immediate preparation for his funeral. But in this situation I did not despair of his recovery. Dr. Mitchell's account of the effect of purging in raising the pulse, excited a hope that he might be saved, provided his bowels could be opened. I now committed the exhibition of the purging medicine to Mr. Stall, one of my pupils, who mixed it and gave it with his own hands, three or four times

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rise by degrees from the ground, and the system will accommodate itself in such a manner to the diminution of its pressure, as to resume its erect form, &c."

* Armstrong on Typhus.

a day. At length it operated and produced two copious fetid stools. His pulse rose immediately afterwards, and an universal moisture on his skin succeeded the cold sweat on his limbs. In a few days (continues he) he was out of danger, and soon afterwards appeared in the streets in good health, as the first fruits of the efficacy of mercurial purges in yellow fever." We have copied the whole of this case, because of its very instructive and interesting character. It evinces in a striking degree the effect evacuations from the bowels have in raising the pulse, and it should also teach that no case, however bad in appearance, should be abandoned as incurable: our motto indeed should be *nil desperandum.*

The bowels, in congestive fever, are often extremely torpid, and require the most powerful doses to rouse them to action. This is one of the cases in which we should disregard the injunctions of our materia medicas, and exhibit medicine in doses commensurate with the violence and obstinacy of the disease.

Armstrong has great confidence in the salivatory effects of calomel. We must confess that we believe it never does good in this way; the calomel, before it affects the mouth, has already won the victory over the disease. The reason why salivation has been thought to put an end to fever, is the generally simultaneous appearance of ptyalism and the cessation of the fever; but we are fully convinced that the former is the result of the latter, and not that the latter is produced by the former. Salivation, therefore, may generally be considered as a good sign, as it is a proof that the fever is either entirely subdued or very much on the wane.

Our great confidence, therefore, in calomel is from its superior efficacy in evacuating dark or green matter from the bowels; and in this only we believe consists its beneficial effect in fever.

The only local remedy which we have found very useful in cases of congestive fever, is the application of mustard poultices or sinapisms to the wrists, ancles, and pit of the stomach. When the surface of the body is cool and the pulse very weak and low, these sometimes produce an excellent effect; they are, particularly in such cases, greatly preferable to blisters.

Causes of Typhus Fever. We come now to a consideration of the causes of typhus. This is a subject on which great diversity of opinion exists even at the present day. While some are of opinion that it may arise from the putrefaction of animal matter, or from human effluvia, the result of crowding healthy persons into confined and ill ventilated places; others contend that it arises exclusively from, and is propagated by, a specific contagion; and there are others still who deny to it any such property, and consider it merely as a variety of the common remittent and continued fever, and, of course, as arising from the same causes.

We shall examine these different opinions in succession, with as much fairness and impartiality as we can; and first, of that opinion which attributes the origin of typhus fever to animal putrefaction. This has for a long time been considered not only as a cause of the fever now under consideration, but of other fevers also. Pringle remarks, that "The hospital and jail fever are to be considered as the same disease, and little, if at all, different from such as have arisen after battles, when the bodies of the slain have been left unburied to rot upon the field. This, Galen (continues Pringle) notes as one of the causes of pestilential fevers."* There is, however, such an abundance of evidence in refutation of this opinion, as "to leave no loop or hinge to hang a doubt on." Bancroft, in his able and philosophical work on fevers, has collected a mass of testimony to this effect, some of which we shall take the liberty to copy into this essay. The most remarkable fact which he relates, is the exhumation made in the churchyard of the Saints Innocens, at Paris, in the year 1786. "The churchyard of the Saints Innocens, at Paris, situated in one of the most populous quarters of the city, had been made the depository of so many bodies, that, although its area enclosed more than 1700 square toises, or near two acres, yet the soil had been raised by them eight or ten feet higher than the level of the adjoining streets; and upon the most moderate calculation, considerably more than six hundred thousand bodies had been buried in it, during the last six centuries; previous to which date, it was already a very ancient burial ground. Numerous complaints having been made concerning the offensive smells, which arose from this spot, and sometimes penetrated into the adjoining houses, and the public mind being greatly alarmed, it was at last determined to forbid all future burials there, and to remove so much of the superstratum as would reduce the surface to the level of the streets. This work was undertaken in 1786, under the superintendance of M. Thouret, a physician of eminence in Paris, and in two years he accomplished the removal of that superstratum, almost the whole of which was impregnated, or *infected*, as M. Thouret styles it, with the remains of carcases, and of quantities of filth and ordure, thrown upon it from the adjoining houses."

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* Observations on Jail or Hospital Fever, p. 320.

"The exhumations" (says M. Thouret) "were principally executed during the winter; but a considerable part of them was also carried on during the *greatest heats* of summer. They were begun with every possible care, and with every known precaution; but they were afterwards continued, almost for the *whole period* of the operations, without employing, it may be said, *any precaution whatever;* yet no danger manifested itself in the whole course of our labors—no accident occurred to disturb the public tranquillity!"*

[*To be concluded in the next number.*]

ART. II. *Report of Meteorological Observations made in the City of New York, from May 1st,* 1828, *to May 1st,* 1829, *by order of the Medical Society of the City and County of New York.* By JOHN BAXTER, M. D., Secretary of the Meteorological Committee.

METEOROLOGICAL TABLE FOR THE CITY OF NEW YORK, FROM MAY, 1828, TO APRIL, 1829, INCLUSIVE.

1828–9	BAROMETER.				THERMOMETER.				RAIN.
	Highest range.	Lowest range.	Difference	Mean.	Hig. range	Low. range.	Diff	Mean.	
	INCHES	INCHES	INCHES	INCHES	DEG	DEG	DEG.	DEG.	INCH.
May	30.6	29.4	1.2	30.	80	40	40	60.	6.
June	30.15	29.6	.55	29.875	91	56	35	73.5	5.
July	30.	29.6	.4	29.8	92	61	31	76.5	3.75
Aug.	30.3	29.7	.6	30.	93	62	31	77.5	1.54
Sept.	30.2	29.7	.5	29.95	94	53	41	73.5	6.10
Oct.	30.4	29.55	.85	29.975	77	36	41	56.5	1.38
Nov.	30.3	29.05	1.25	29.675	66	30	36	48.	9.6
Dec.	30.35	29.5	.85	29.925	60	20	40	40.	.32
Jan.	30.45	29.25	1.2	29.85	47	10	37	28.5	5.54
Feb.	30.1	28.875	1.225	29.4875	42	12	30	37.	
March	30.25	29.1	1.15	29.675	64	22	42	43.	2.48
April	30.2	29.2	1.	29.7	79	36	43	57.5	4.82

OBSERVATIONS.

May. The barometer, this month, rose unusually high, 30.6, and also sunk quite low, 29.4, making a difference of 1 2-10 inches, and averaging 30 inches.

The thermometer rose as high as 80°, and sunk to 40°; difference 40°, and average 60°.

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* "It does not appear, after the fullest enquiry, that any febrile disorder was ever produced by this immense mass of corruption, during the removals

The depth of rain that has fallen amounted to near six inches; being more than double the quantity which fell the last year.

But the weather generally was clear, the rain falling in showers.

The prevalent winds were easterly.

June. The barometer did not indicate over 30.15 pressure, but did not become less than 29.6; making only a difference of 55-100, the average being 29.875.

The thermometer rose, this month, to 91°, but was as low as 56°; making a difference of 35° between the greatest heat and the least heat, the average being 73° 5′.

The depth of rain has been great also this month, measuring a trifle over five inches, more than double last year; it was in frequent showers, and attended with much thunder and lightning, heavy and vivid; the nights have been moist and cool, the hygrometer marking very great dampness—seldom showing one revolution towards dry.

The cloudy and misty weather has been considerable.

The prevalent winds have been southeast and southwest.

July. The barometer, this month, has not shown a pressure above 30 inches, nor below 29.6; difference only 4-10; average pressure 29.8.

The greatest heat indicated by the thermometer was 92°, on the 25th and 26th; the least heat was 61°; the difference 31°, and average 76° 5′.

This month the quantity of rain has diminished, being scarcely three inches; the showers have, however, been frequent, and attended with electrical phenomena: last year it was 3 3-4 inches. The weather has been more cloudy, but the hygrometer indicating more dryness, has marked 2.5 very often.

Westerly winds have been the most prevalent; some N.W.

In the first part of the season the changes in the barometer, as well as in the thermometer, were rapid and more in extremes; but in June and July the barometrical pressure,

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made in 1786, or while it was suffered to remain as a burying ground. The grave diggers were, indeed, sometimes thrown down suddenly, and, for a time, deprived of sense and motion, by the concentrated vapors which escaped, upon accidentally breaking open, by their spades, the abdominal viscera of bodies, in an early stage of putrefaction. These vapors, also, in a more diffused state, are said to have produced nausea, loss of appetite, and, in a course of years, paleness of countenance, debility, tremors, &c. But fever of any kind, and much less *contagious fever*, does not appear to have been noticed, as resulting from the offensive or putrid matters of this churchyard, either to the grave diggers or to the neighboring inhabitants." Bancroft, pages 93, 94, 95.

as well as the heat, were more uniform, though the thermometer did not rise to so extreme height as in 1827.

The quantity of rain which fell the first part of the season was very large, and attended with much thunder and lightning; this has been the case in all parts of the country, so that much damage has been the consequence. The rain diminished towards the last of July, but even in that month it was not unusually small. In the last three months the whole amount fallen, 14 inches, has been nearly double that of the same quarter of last year. The season, nevertheless, has been healthy, with the exception of rather an unusual quantity of dysenteric symptoms among adults, and cholera infantum rather more fatal than ordinary.

August. The atmospheric pressure, this month, was very equable, the maximum being 30.3 inches, and the minimum 29.7 inches; the range or difference amounting to only 0.6 inch, giving a mean of 30 inches.

The greatest thermometrical rise was to 93°, which was during the last week of the month; the first part of the month being moderate, the minimum was at the middle of the month, being 62°; difference 31°, and mean 77° 5′.

There were but two falls of rain this month, amounting to but 1.54 inch.

The weather generally clear and pleasant—but few electric phenomena. At the beginning of the month, N. E. winds prevailed—at the middle they were southerly, and towards the latter part W. and S. W.

September. The range of the barometer was still less this month than the last, being but 0.5 inch; the maximum was 30.2 inches—the minimum 29.7—mean 29.95.

The thermometer rose as high as 94°, this month, which was on the first, immediately after which there was a sudden fall, but was several times during the month at 80°, the minimum being 53°, the range was 41°, the mean 73° 5′.

At the beginning of the month, with the fall of the thermometer, there was a heavy fall of rain for three days, and four times afterwards, amounting, for the whole month, to 6.10 inches—electric phenomena but once.

The intervals between the falls of rain were mostly clear.

Winds from the ocean were mostly prevalent, viz. from N. E. to S. E., but some W. and N. W. occasionally blew.

October. The mercury in the barometer was raised, this month, to 30.4 inches, the minimum fall being to 29.55, the range being 0.85 inch; making the mean very nearly the same as the two last months, viz. 29.975.

The greatest rise of the thermometer was to 77°, though the first of the month was cooler; the minimum was as low as 36°, which was about the middle of the month, so that 41° were traversed, giving a mean of 56° 5′.

There were but three slight falls of rain during the month, amounting to but 1.38 inch; but there were heavy dews, some hazy weather, and a black frost about the middle of the month. The atmosphere was generally clear through the month, scarcely an entire cloudy day the whole month. Electric phenomena once.

The prevalent winds were westerly; the sea breezes very few.

We thus see that for this quarter the barometrical changes have been very small, and the pressure equal, being little less than 30 inches. The mean of the thermometer for the two first months very nearly agreed—that for the last was somewhat less.

With the exception of a heavy rain the first week in September, when nearly 3 1-2 inches fell, the fall of rain was small, being, without that, but about 5 1-2 inches for the three months.

It should be here remarked, that, although the health of the city was unusually good, yet the mortality was large, which arose from the prevalence of dysentery, and remittent and intermittent fevers in the country around, where the mortality was very great, and many flying to the city for refuge, terminated here their diseases with their lives. The connexion of these epidemics, which were mostly in the neighborhood of marshes, with the great fall of rain in the beginning of the season, is conspicuous, which, evaporating this quarter, left bare much decomposing vegetable matter.

November. The barometer indicated no more than 30.3 inches this month, but the mercury fell to 29.05, giving a range of 1.25 inch; the mean was 29.675.

The thermometer indicated 66° as its maximum rise; its minimum was 30°, which was about the middle of the month, making a range of 36°, and placing the mean at 48°.

In the first week, a violent fall of rain took place, of over four inches in three days; afterwards repeated rains occurred, and one fall of snow, amounting altogether to 9.6 inches.

The weather was a continued alternation of cloudy and clear, and the winds no less changeable, being from N. E. to S. E. on one side, to W. and N. W. on the other. No Electrical discharges.

December. The range of the barometer was but 0.85 inch, from its maximum, 30.35, to its minimum, 29.5 inches; the mean 29.925.

The thermometer did not rise above 60° this month, and fell the last day to 20°, making a range of 40° and a mean of 40°, but the mean temperature was something above this.

There was but one appreciable fall of rain in December, which was 0.32 inch; the cloudy was small compared with the clear weather, and there were some mists—vegetation became deadened. No electric discharges.

The W. and N. W. winds were most prevalent, but some S. and S. E. occasionally.

January. The mercury in the barometer was raised, this month, to 30.45 inches as the maximum; the minimum was 29.25 inches, the range being 1.2 inch, the mean being 29.85 inches.

The maximum of the thermometer was 47°, which was at the middle of the month; the minimum was, near the beginning of the month, 10°, and only once; the range 37°, and the mean 28° 5′.

There were seven falls of snow and rain, amounting to 5.54 inches of water; the snow remained but a short time, being slight, or followed by rain.

There was much cloudy weather and some mist; with the exception of a few days the weather has been mild, the winds mostly from the W. and N. W., although N. E. and S. E. winds were frequent.

The season for this quarter has been mild and pleasant—the W. and N. W. winds not unusually strong, and but slight flurries of snow, all promising a moderate winter. It will be recollected that the coldest weather the last winter was in November.

The fall of rain, amounting to 15.46 inches, has been rather larger than during the same months last season, and a large portion fell the first week in November, viz. four inches.

The city has continued healthy, and the mortality considerably lessened since last quarter. The epidemic that prevailed in the country has mostly ceased its ravages.

February. The maximum of the barometer this month was 30.1, but the minimum was extraordinarily low, viz. 28.875, and this was remarked in a number of places. The mean was 29.4875 inches.

The thermometer did not rise above 42°, nor sink below 12° above 0, yet the uniformity of the cold made it a severe month. The mean of the temperature was 37°, the range being 30°.

There were four falls of snow, three of which were very heavy; there was, in addition, one fall of rain; owing to the drifting of the snow and the breaking of the guage by the frost, the depth of water was not appreciable. The weather, generally, was clear, and the winds almost continuous from the W. and N. W. On the 20th, very heavy from the N. E.

March. The maximum rise of the barometer in March was 30.25, and the minimum was again low, as 29.1; the mean 29.675.

The thermometer was as high as 64°, and the minimum not below 22°, which makes a range of 42°, and places the mean at 43°; yet the mean was considerably below this, as the temperature was low, not often or long at a time above the freezing point.

The S. E. winds became rather more frequent this month, but the N. W. and W. kept their place and strength with much uniformity.

There were two falls of snow and four of rain, the whole quantity of which was 2.48 inches. The S. E. winds were generally attended with fogs and mists.

April. The barometer did not rise above 30.2, but fell as low as 29.2; giving the mean at 29.7.

The thermometer, towards the last of the month, rose as high as 79°, and very frequently was as low 36°, placing the mean at 57° 5′; the range being 43°.

There were seven falls of rain this month, making the depth of water 4.82 inches.

The land winds were not so cold and unpleasant as they have been, and they were not so frequent; the winds from the ocean were more prevalent and uncomfortable. The weather, as usual at this season, very variable—vegetation more backward than usual, and there was a great dryness of the atmosphere.

This quarter has been almost a continued winter, the spring hardly commencing the middle of April. In all parts of the country there were great quantities of snow, even as far south as the Wabash, where the thermometer was frequently 20° lower than here—*the lowest standing at* 10° *below* 0. But it has been for this city a severe quarter, owing more to the continuousness of the cold than to its intensity.

The whole quantity of water fallen in rain or snow cannot be exactly ascertained, but it could not be less than twelve inches.

The health of the city has been very good; the most prevalent disease has been the measles.

To unravel the complicated operations of atmospheric changes, is an undertaking of no small labor and importance. To designate exactly how much is due in these changes to pressure, to heat, to atmospheric currents, to evaporation in the formation of clouds, to electricity, to the formation of dew, rain, and snow, to ascertain the bearing that each has upon the other, and to trace the line of causation, is a part of the duty of the meteorologist, which, for a long time neglected, has as yet made but small progress, and is still in its infancy; and even the practical observations upon which this, like all sciences, must be founded, have been, until lately, mostly subject to those alone, whose occupations make them dependent upon the weather in their pursuits. Thus have the sailor, the husbandman, and the shepherd, always been considered the best meteorologists, and their predictions looked upon as comprehending all the wisdom with regard to the weather, and their signs as established precursors of those changes, which man's curiosity and interests urge him to wish to foretel. The distinguished trait of man's improvement, has, however, through the other sciences, made some movement in this. There are a few to whom meteorology owes much—the valuable labors of a Hutton, a Howard, a Dalton, and a Daniels, and some others, have placed upon the basis of a science, what was before but a mass of vague hypothesis, and of signs mixed with superstitious dreads picked up in various climes, from different people, and seldom to be depended upon.

As observed by the latter gentleman, Mr. Daniels, "There are two distinct atmospheres, mechanically mixed, surrounding the earth; whose relations to heat are different, and whose states of equilibrium, considering them as enveloping a sphere of unequal temperature, are unequal to each other. The first is a permanently elastic fluid, expansible in arithmetical progression by equal increments of heat, decreasing in density and temperature according to fixed ratios, as it recedes from the surface; and whose equipoise, under such circumstances, would be maintained by a regular system of antagonist currents.

The second is an elastic fluid condensible by cold, with the evolution of caloric, increasing in force in geometrical progression with equal augmentation of temperature, permeating the former, and moving in its insterstices, as a spring of water flows through a sand rock.

Now the changes produced in these two atmospheres by an increase or diminution of their densities, and their influfluence on each other through the means of caloric, and their own elasticity, may be considered as the basis of all the phenomena which meteorologists observe as occurring on our globe. Thus, in a state of things exactly balanced, a change of temperature, productive of a change of density, alters the velocity of currents, and a struggle ensues to regain the balance, which is productive of deflections in the course of winds, accumulations occur in some parts, and deficiencies in others, for measuring which the barometer serves. But when an aqueous atmosphere is afforded by evaporation with an equal temperature, an equilibrium would be maintained, and that atmosphere would be transparent. If condensation takes place at one point, evaporation is increased at another; and, vice versa, a struggle is kept up to attain the state of rest. But these atmospheres surround a sphere unequally heated on its surface, which, in either of them separately, would produce currents, form changes in their densities, and the condensation of portions of the aqueous atmosphere would be productive of clouds, and their precipitation rain, snow, and hail. But supposing a mixture of permanently elastic fluid with aqueous vapor, their action upon each other will be mechanical. The vapor, flitting through the air, is retarded as through cotton, or through sand; and either becomes equipoised, or is in intestine motion. Increase of bulk, and decrease of specific gravity, are the result of the mixture. A state of rest and equal mixture cannot exist. A state of motion must be kept up continually, occasioning a constant struggle. When the vapor is first formed, the air is the only obstacle to be overcome; for which a small portion of tension is required. The force of this is uncertain; but as the vapor accumulates, the resistance increases, so that the vapor becomes of higher temperature; but, as those vapors become clouds and ascend, the resistance diminishes both from the air and pressure of vapor. Under this process, about six grains of water are raised from a square foot per minute; and as condensation occurs, by descending and meeting the heated air, it is evaporized again and rises, thus acting as a carrier of heat.

The supply of vapor which occasions rain, may be traced to two sources; one is the evaporation from the immediate latitude itself where it is precipitated; and the other from a stream of vapor which is perpetually struggling to advance from the equator. Sometimes the rain may be derived from the two sources conjoined, and sometimes from either separately. When derived from the first, the operating cause is the sudden fall of temperature, produced by cold currents, or the changes of the seasons, and assumes the form chiefly of showers of greater or less continuance. The expenditure of vapor is but slowly supplied, and the precipitation occurs at intervals. Rain from this source is always accompanied by a declining temperature.

When, on the contrary, in consequence of diminished pressure, the tropical current reaches in succession the colder parallels, the supply continues in a perpetual flow; the temperature is raised, depression of the barometer increases, and rain descends with little intermission.

The mean temperature in its progress guides both the rate of evaporation, and the quantity of vapor the air can support. The progress of the vapor in fine weather, may often very satisfactorily be traced by means of the clouds. During the heat of the day, it rises from the surface of the land and waters, and reaches its point of evaporation in greater or less quantities. Partial clouds are formed in different parallel planes, which always maintain their relative distances. The denser forms of the lower strata, as they float along with the wind, show the greater abundance of precipitation at the first point of deposition; while the feathery shape and light texture of the upper attest a rarer atmosphere. These clouds do not increase beyond a certain point, but, after remaining stationary in quantity and figure for many hours, as the heat declines, they gradually melt away.

This formation of clouds, in the upper region, assumes the cirriform shape, and are frequently precipitated and become more dense, when they descend in a nimbus form, and the higher temperature dissolves them; the vapor diffuses and spreads out until, the equilibrium being formed, precipitation ensues, and the air can support it no longer.

The admission of vapor into a dry atmosphere increases the pressure, and the barometer rises; its condensation allows expansion, and consequent fall of the barometer follows. The increase of evaporation not being supported by the higher regions of the air, the vapor is precipitated, and thus rain follows the fall of the barometer.

Thus, while the general character of vapor and air is owing to the latter, which in its irresistible motions must hurry the former along with it, the influence of the vapor upon the air, though slower, is more sure; and the gradual and silent processes of evaporation and precipitation govern the boisterous winds. By the irresistible force of expansion unequally applied, they give rise to undulations in the elastic fluid; the returning waves dissipate the local influence, and the accumulated effect is annihilated again to be reproduced.

The northerly current above spoken of, which is the lower polar current,. is supposed to occur on a sphere at rest only, and unequally heated. But then the motion of our sphere is from west to east, and the sphere moving faster than the polar current, its inertia gives an easterly current, the junction of which with the northerly produces the northeast current, and under the tropics, the trade winds which are occasioned by the greater velocity of the equator. Near the equator they blow directly from the east; the polar currents also meeting these, they counterbalance each other, producing calms; at a greater elevation a current blows in a reverse direction.

The power of the sun at the meridian has another effect in producing currents from east and west, and the heating of the land during the day, a sea breeze until after the sun declines.

It is established as a principle by Daniels, "that the equal height of the barometer, in every situation upon the surface of the sphere, was dependent upon the maintenance of the equatorial and polar currents, with a certain determinate velocity in different parts of their courses; and that disproportionate alteration or interruption in these could take place without a correspondent effect upon the mercurial column." That is, that an under current of air sets from the poles to the equator, where it is raised by the constant heat, and returns by an upper current to the poles, where it falls by the cold; and the various winds are but an interruption of these currents from various causes.

Such irregularities, the result of a diminution of mechanical pressure, will produce changes of temperature, and especially in the upper parts of the atmosphere; by a sudden depression of heat, the result of mixing with a large body of cold air, the pressure of the surrounding air will be productive of a mechanical effect, and an adjustment of density takes place before that of temperature; hence a decrease of temperature takes place in a greater degree than that of density, and the barometric pressure is increased to equalize the specific gravity. But it is in aqueous condensation, and not in changes of temperature alone, that we must look for the cause of barometric changes; hence, under the tropics, an alteration of not more than ¼ of an inch is shown; while, at other points, three inches are sometimes produced.

The cooling of the land produces the reverse. This cause influences and changes the direction of the trade winds on the western coasts of large continents. Our east winds in summer are produced by it, also the monsoons of the Indian Ocean.

To Mr. Daniels belongs the credit of having given clearer views on this subject, than any one who has hitherto written on it. To him we are indebted for some of the above observations, which we have endeavored to give as concisely as possible. His synthetic mode of procedure, so philosophical, is greatly calculated to elucidate a hitherto obscure and mysterious subject.

As it is well ascertained that the usual diurnal changes in the barometer are at four determined periods in the twenty-four hours, we have changed the times for those observations, and taken them at 9 A. M., when the greatest elevation occurs; at 3 P. M. when the greatest depression is met with, and at 11 P. M. when the other elevation is produced—at 3 A. M. the other lowest fall occurs.

The hygrometer used is still imperfect, and should be replaced by one of Daniels's construction, for want of which, the hygrometric observations have not been detailed.

ART. III. *Contributions to Pathological Anatomy.* By CHARLES A. LEE, M. D., Physician to the Northern Dispensary of New York.

IN presenting the following cases to the public, if any apology be due, it is found in the conviction that to pathological anatomy we are indebted for the present highly improved state of medical science; and that to the same source, and a still greater accumulation of facts, we must look for its further advancement.

CASE. I. *Inflammation and consequent Mollescence of the Heart.*—Sarah Stevenson, a colored woman, applied to me, in the spring of 1827, for medical aid. Her constitution was naturally good, but latterly she had become intemperate. From her mother I learned the following history of her case: For the last two or three years she had suffered from the brutal treatment of her husband, and about three weeks previous to my visit, had aborted in consequence of a blow she had received over the region of the uterus. She was then in the third month of pregnancy, and from the injury then inflicted, she had never recovered. After the expulsion of the fœtus, there came on a purulento—sanguinolent discharge from the uterus, with severe pain throughout the whole abdomen. Extreme gastric irritation was an early prominent symptom, and it increased with the corresponding uterine affection, passibus æquis. To constant nausea, a distressing vomiting succeeded, which nothing could allay. At this stage of her complaint she called in a young physician, who left her a dose of tart. ânt., supposing, probably, that the symptoms originated from a foul stomach. As might have been expected, her sufferings were aggravated. Two days afterwards, I found her in great distress throughout the whole body, severe pain in the head, vomiting, or attempting to vomit, frequently, great tenderness at the epigastrium and over the uterus, with a small frequent and irritable pulse. The treatment need not be detailed, as nothing arrested the progress of the case to a fatal termination. Her bowels were uniformly constipated, the temperature of the body was variable, the affections of the head increased, and spasms occasionally took place. The pulse was at times irregular, intermittent, and fluttering, with a painful sense of sinking at the epigastrium. No article of medicine or food was retained on the stomach, till at length her breathing became laborious, she lost all consciousness, and died just four days from the time I was consulted.

Dissection. Drs. Cleaveland and Andrews were present at the examination of the body. In the external appearance there was nothing remarkable. The abdominal parietes were flaccid, and there was considerable emaciation. The uterus was a little larger than natural, and rested lower in the pelvis. The inner surface of the fundus uteri was thickly covered with a dark bloody mucus, which was easily rubbed off with the finger, after which drops of blood oozed out in considerable quantity. The os uteri was ulcerated, with considerable loss of substance, which sufficiently accounts for the previous purulent discharge. The ovariæ were large, and contained several whitish corpuscles of various sizes, apparently indurated. The peritoneum bore no particular marks of inflammation; but the mucous coat of the stomach was reduced to a soft reddish pulp, easily macerated between the fingers, and fully injected with blood. Traces of inflammation or *irritation* were visible through the whole tract of the intestines, particularly in the duodenum. The lungs were healthy, and in their posterior part their veins turgid with blood. The heart was preternaturally large, flabby, and soft; to such a degree that the finger could easily be thrust through its walls. Both mitral valves were completely obliterated; so that the auricles and ventricles were thrown into one cavity. Polypi, or rather patches and shreds of fibrine and coagulated blood, were found in the ventricles, but no traces of the *columneæ carneæ* were perceptible. The usual quantity of serous fluid was contained in the pericardium. A large quantity of serum was effused between the pia mater and arachnoid membrane of the brain, presenting the appearance of a transparent cerebral envelop of nearly one third of an inch in thickness. The internal vessels of the cerebrum were pretty fully distended with blood, and an ounce of fluid, perhaps, in the ventricles.

Remarks. Though the history of the above case is not as complete as I could wish, yet it exemplifies very fully the intimate sympathy existing between the uterus and the heart. Though the stomach exhibited marks of extreme irritation, yet, compared with the heart, its texture was comparatively sound. It is also worthy of notice, that the irritation and subsequent inflammation of the heart, produced passive aneurism of that organ. This fact is particularly noticed by Dr. Abercrombie, in his work on diseases of the heart, and he explains it, in the only way, indeed, in which it can be explained, from the loss of muscular power which the inflammation induces: the blood being thus returned to the cavities of the heart faster than it can be expelled, passive dilatation is the inevitable result. This keeping pace with the increasing debility, it is not to be wondered that the period should speedily arrive, when the motive circulatory powers must sink under the accumulated weight of blood. In the above case, no satisfactory diagnosis could be formed from stethoscopic examination.

CASE II. *Angina Pectoris.*—In July, 1827, William Ross, shoemaker, æt. 40, applied at the Northern Dispensary for medical advice. He was a man of intemperate habits, lax fibre, and bilious temperament; had a peculiar expression of anxiety and suffering in his countenance, which was uncommonly pale and haggard. He complained of an inexpressibly painful sensation at the top of the sternum and in the region of the heart, accompanied with great dyspnœa and depression of spirits. His pulse was about 112, full, incompressible, and chordlike. I never felt a pulse which seemed to jerk so violently under the fingers. V. S. ad. ℥xx. Pulse rose after bleeding to 125—no relief. The blood had no peculiar appearance, but contained rather too much serum. He was put on the use of a weak infusion of dig. purp. The next day, Tuesday, he again came to the Dispensary, with an aggravation of all his symptoms. He was instantly out of breath when he undertook to ascend a staircase or any eminence, and he could scarcely breathe except in an erect position. *Wednesday*, I was sent for in haste, and found my patient walking the room and gasping for breath, complaining at the same time of great pain and oppression at the heart. With the advice of another physician present, I bled him immediately, with my finger on the wrist; as soon as I perceived an alteration in the pulse, the blood was stopped, and while binding up the arm, he fainted, and fell on the floor. He, however, soon revived, sprang up, and said he felt as well as ever he did in his life. We ordered him to bed, and to have some warm wine prepared for him, and regularly administered, *which was not done.* He was thrown on a bed in a hot garret, and in the course of the day was found dead.

Dissection. In this dissection I was kindly assisted by Dr. I. Brinkerhoff. On raising the sternum and turning aside the mediastinum, the pericardium appeared, nearly filled with limpid serum. The heart was preternaturally enlarged, its parietes being proportionably thickened and covered with a dense layer of fatty matter. The venæ cavæ and right side of the heart were turgid with dark, uncoagulated blood. The aorta was aneurismal, being nearly twice the usual diameter, and at its root, near the ventriculo-aortic valve, there were extensive ossifications. The stomach was very large, and its pyloric orifice in a scirrhous condition, and considerably contracted in its diameter. The mucous coat was in a soft, glutinous state, and could be easily scraped off with the finger nail. The whole texture of the organ was softened, and nearly colorless, and the inner coats were corrugated into various rugæ, some of them three quarters of an inch in thickness. No blood vessels could be seen in any part of the stomach, and a scirrhous tumor was found between the muscular and peritoneal coats of the duodenum. The liver was enlarged and studded with tubercles. Lungs natural. Other viscera not examined.

Remarks. Pathological investigation goes far to show, that sternalgia, or angina pectoris, is not a mere spasmodic affection, as was once generally supposed, but that it originates from organic changes and such other causes as impede the circulatory functions and produce preternatural accumulations of blood on the right side of the heart and neighboring large vessels. Hence, in different cases, there have been found ossifications of the coronary arteries and semilunar valves—masses of fat encumbering and clogging the heart; hypertrophy of the auricles or ventricles, or both; aneurismal aorta, excessive general venous plethora and dropsy of the pericardium; and each of these appearances has been assumed by different pathologists, as the sole cause of the disease; they not reflecting, perhaps, that the same effect would flow from all, viz. an inordinate quantity of blood in the cavities of the heart. Such a condition is indicated by all the symptoms. That it may occasionally be caused by excessive plethora, as taught by Dr. Hosack, is highly probable; but it is also known to occur, as in the above case, in men of spare, thin habit, who show no marks of general venous plethora.

CASE III. *Traumatic Tetanus.*—March 22, 1828, called to visit John McBride, an Irish laborer, æt. 35, and very intemperate in his habits. A week previous he had trodden on a rusty nail, which passed between the adductor muscles and the metatarsal bone of the little toe of the right foot. He felt but little pain at the time, and had continued at his work, with but little inconvenience, until this morning. I found him laboring under extreme anxiety and nervous agitation, with cold sensations creeping over his body, and great distress at the bottom of the sternum. The muscles of the face and neck were very rigid, and his jaw firmly fixed, so that it could scarcely be opened sufficient to admit a small spoon. A cold clammy sweat covered the face and body. There was at the same time a painfully distressing sensation in the throat and fauces, resembling suffocation; and whenever he attempted to swallow, he was seized with violent convulsions. The sense of constriction over the whole chest and body was extreme, and the belly excessively hard from the retraction of the abdominal muscles. In a short time the body and limbs became permanently extended and inflexible; the flexors and extensors exactly balancing each other in a state of tonic spasm, and he lay as incapable of motion as a statue. His power of articulation, however, was so far retained, that with some difficulty he could make himself understood. His mind was throughout uniformly rational.

Having, a short time previously, treated a case of trismus successfully by nauseating doses of tart. antimony, I determined to make an effectual trial of it in the present instance.* Accordingly, after freely laying open the wound, and V. S. ad. ℥xv, two grains were administered, and the same quantity directed to be given every half hour. His pulse at this time was 72, free and throbbing. With considerable difficulty the antimony was given as ordered, until about ten grains had been swallowed, when sickness and efforts at vomiting succeeded. The pulse now fell to 60, and the muscles showed signs of relaxation. During the afternoon there was but little alteration; at times there appeared a slight mitigation of the symptoms, and he complained of a perpetual chill, which nothing could alleviate; attempts at swallowing were distressingly painful; the risus sardonicus settled upon his features; one grain of tart. ant. was directed to be given every hour through the night. Next morning, 23d, no better—slept more—skin hot and dry—pulse 80—muscles all rigid; had several evacuations from the bowels, and the sense of suffocation was extreme. The muscles about the neck, particularly those concerned in swallowing, appeared more swollen and dense, and the ribs were so constricted by the contraction of the intercostal and abdominal muscles, that respiration seemed wholly performed by the diaphragm. The antimony was continued through the day, until he had taken upwards of ℈ij; still there was but slight, if any, perceptible remission of symptoms. Pulse ranged from 85 to 100.

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* A strong solution of tart. ant. was made, and insinuated between the lips, and thus sucked through the interdental spaces. When small quantities of medicine are to be administered in a fluid form, this will, no doubt, prove the most convenient mode.

At evening, the jaws still remained fixed, and every few minutes violent spasms affected the whole body, followed by profuse perspirations. As a tolerably fair trial had been made of the antimony, it was now exchanged for tinct. opii and wine; one drachm of laudanum was given every two hours through the night, which the attendants informed me procured a little unquiet sleep, but no muscular relaxation.

24th. Considered somewhat better: less force was required to separate his teeth; he could turn himself in bed, and move his limbs a little. Pain at epigastrium continued severe, and likewise through the tract of the spine; pulse 120; skin hot and dry. The laudanum was continued by the mouth and injections, until between two and three ounces had been given. At noon his pulse was 100; otherwise the same. At 4 o'clock P. M. he raised himself in bed, for the first time since his attack, and called for a cup of chicken broth, which he drank without difficulty, and immediately fell back, and died without a struggle.

Dissection. An examination of the body was made the following morning, at which Dr. J. O. Pond was present. On the top of the foot was a livid discoloration, and on tracing the course of the nail, the parts were found extensively inflamed, and a small quantity of iron rust was lodged between the bone and adductor minimi digiti muscle. In this place was about a tea spoonful of pus and flakes of coagulating lymph. A branch of the peroneal nerve had been lacerated, and, as far as it was traced, appeared pulpy and highly vascular. No doubt could exist of its extending to the spinal marrow. The *stomach* showed some marks of inflammation, and its mucous coat was softened and injected with blood.

The duodenum was also very red. The liver was greatly enlarged and indurated; the vessels of the scalp bled freely on incision, and the blood throughout the body was uncoagulated.*

Remarks. The true pathology of traumatic tetanus is undoubtedly an inflamed state of the nerves of the injured part, and thence extending to the spinal column. In some cases, it is possible that post mortem traces of inflammation may not exist through the whole tract of the affected nerve, and still more possible that the spinal marrow may not have undergone sufficient structural derangement from irritation to leave evident appearances after death; still, when we reflect that in some cases such marks have been observed, that all the symptoms of this horrid malady indicate excessive nervous irritation, that this irritation must be transmitted to the spinal marrow, and that the result—muscular contraction—is similar to that caused by the application of an extraneous irritating substance to the same, we need not hesitate greatly as to the true pathology of this disease.

CASE IV. *Poisoning by Laudanum.*—Mrs. A., æt. 40, in a fit of tedium vitæ, took a large dose of laudanum, the exact quantity not known. The result proved fatal in about sixteen hours. The symptoms and treatment need not be detailed.

Dissection. On making an incision into the scalp, the superficial veins were very full of dark uncoagulated blood. Though unconnected with the cause of death, it is worthy of notice, that a portion of the dura mater near the frontal sinus was ossified to a considerable extent; and in the vertex of the cranium there was a deep depression in the parietal bones, large enough to receive a walnut, with a corresponding protuberance of the brain and dura mater. The longitudinal and lateral sinuses were distended with blood. Between the pia mater and arachnoid membrane, there was a large collection of coagulating lymph and serum, forming a gelatinous appearance of a yellowish tinge. The choroid plexus was very vascular, and in the bottom of the ventricles there were small flakes of purulent matter.

The lungs were congested; the right side of the heart was full of coagulated blood. The mucous villi of the cardiac orifice of the stomach were redder than natural, and softened to a glutinous consistence. The termination of the æsophagus seemed inflamed, and the mucous lining of the intestines erythematous.

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* To show the *peculiar facilities* for pursuing post mortem investigations in New York, I may here mention, that at this stage of the examination we were violently attacked by a mob, who had been informed by some person of what was going on in the house, and it was with great difficulty we effected our escape. A guard of fifty men was required for several nights to defend my house from attack, and an absence of a few weeks from the city, served, in some measure, to allay the excitement.

Remarks. As the purely narcotic vegetables act on the nervous tissue of the stomach, and secondarily on the brain, it cannot be expected that any very manifest changes from healthy structure should be found. In the only cases examined by Morgagni, acrid vegetable poisons had been taken; (heleborus niger, rhododaphne, and solanum;) of course marks of inflammation were present. The jejunum and colon were found inflamed after swallowing the berries of solanum, and in a case of poisoning by mushroom, the stomach and duodenum were highly vascular and excoriated; still it remains to be settled by pathologists, what changes, if any, will be induced, by a paralysis of the nervous tissue of the stomach by the application of a purely narcotic substance, and where irritation ends and inflammation begins.

CASE V. *Enteritis and Disorganization of the Colon.*—The subject of the following case was John Haisley, an Irishman, æt. 35, by occupation a weaver. His habits were *rather* temperate, and his constitution unimpaired. He had been at work through the month of February in a damp place exposed to a current of cold air, and had been complaining about a week when I first saw him, Jan. 1st, 1829. Abdomen tender to pressure; pain not very severe; constant nausea and vomiting; pulse 90, wiry and small; countenance anxious and pale; tongue shining, deeply furrowed longitudinally, clear, soft, and moist. V. S. to ℥xvi; after bleeding, pulse became fuller and stronger—*pain in the bowels greatly increased.* For several days has had several evacuations daily—stomach retained no food, nor medicine, but calomel, of which ℈j was given.

Jan. 2. Worse. Pain more severe—tenderness greater. V. S. ad. ℥xx—epispastic to the abdomen. Hyd: sub. mur. ʒij, pulv. g. acaciæ. ℈i. M. vi. pulv., una sum. quaque 3ta hora.

3d. Symptoms unabated—bowels costive—pain intense. V.S. to ℥xvj. Continued calomel powders, with a small quantity of opium. No impression from the blister—tongue flabby and clean—look anxious.

4th. Continues the same. Pulse 120—extreme tenderness about the umbilicus—gastric irritation severe—bowels costive. Enemata, calomel and opium, fomentations, &c.

5th. Abdomen swollen and tense—other symptoms the same. Continue treatment as above.

6th. No better. Had profuse evacuations from the bowels of bloody serum, mixed with shreds of coagulable lymph and mucous membrane, with large quantities of air. Distress at precordia extreme—stomach retains nothing.

7th. Immense discharges from the bowels, like those of yesterday, of an extremely offensive smell, resembling that of sulphuretted hydrogen gas.

From the 7th to the 14th, when the disease terminated fatally, there was no perceptible abatement of symptoms. Vomiting continued, with a tympanitic state of the bowels and very profuse serous discharges, containing shreds of ulcerated membrane. The strength held out remarkably to the last, as he could raise himself in bed, and even walk across the room, two days before he died. The pulse ranged from 90 to 120—the skin was uniformly dry, while the tongue was clean and smooth.

Dissection. Dr. J. Stewart was present at the examination. On laying open the abdomen, the peritoneum was found thickened, opaque, dense, and of a cartilaginous whiteness and texture, and adhering so firmly to the abdominal muscles, that great force was required to separate it. But few blood vessels of any size were noticed in it. Large quantities of air of a highly fetid smell escaped. The intestines were so changed and glued together by adhesions and false membranes that the different portions were with difficulty recognized. Several ulcerated perforations were found in the colon, and on laying open the intestine the ileo-cæcal valve was found to be obliterated, and no trace of the *valvulæ conniventes* existed. The mucous coat seemed wholly gone, while the remaining coats were thickened, ragged, and spongy in their texture. Indeed, so softened and disorganized were the cæcum and colon, that they scarcely retained tenacity sufficient to hold together while removing them from the body. Ulcerative inflammation had attacked the inner surface of all the large intestines—in some places entirely destroying the texture, in others leaving patches of ulceration of various sizes. The edges of the ulcers were generally thick, irregular, and rugose, of a deep, dirty, brown color, and often terminating in the muscular coat. Gangrene had occurred in two or three spots only, which were of a deep livid hue, and easily pierced through with the finger. The whole alimentary canal was involved in the inflammation, though the chief violence was spent on the large intestines.

Remarks. Though the symptoms of inflammation and ulceration in the coats of the intestines are sometimes so obscure as not even to be suspected till discovered after death, as I have more than once observed, still it is fortunate that this is a comparatively rare occurrence, and only happens when the inflammatory action is so strong as to overpower the nervous sensibility of the part. In the present case there was but little pain before bleeding, and it was greatly increased by every subsequent abstraction of blood. For the few first days of the attack, the discharge from the bowels was of a dysenteric character, and was undoubtedly caused by a moderate degree of inflammation, causing the extremities of the secerning arteries to pour out blood, instead of serum. Since it has been fashionable to attribute dysentery, piles, &c., to an obstruction of the liver and portal circulation, and consequent regurgitation of blood through the mesenteric veins, the state of the arterial vessels has been too much neglected. If there be an obstruction through the vena portæ, it is quite evident that there will be a corresponding dilatation of the secerning extremities of the arterial capillaries. This, I apprehend, is the true pathology in most mild cases of dysentery, and in the first stage of enteritis; it is rendered highly probable, both from the florid appearance of the blood, and from the early period at which it occurs.* The immense discharge of bloody serum which took place towards the close of this case, could only have been caused by the excessive ulceration of the mucous coat and the abrasion of the arterial extremities.

CASE VI. *Suffocation.*—May 21st, 1828, I was called to see a child, two years of age, that had been taken suddenly with a fit of coughing, followed by symptoms of strangulation. When I arrived, the child did not breathe, though but a few minutes had elapsed since it was first seized, and the parents were so alarmed that they could give no satisfactory account about it. Suspecting some substance to be lodged in the trachea, another physician being present, we immediately proposed tracheotomy, but the father said he preferred a *dead child* to a living one with its *throat cut.* Warm bath and other means were used to resuscitate it in vain.

Dissection. The liver, spleen, and intestines all healthy. The stomach contained a pint or more of undigested aliment. which had undergone acetous fermentation. The posterior portion of the stomach was of a deep vermilion color—the rest natural; right side of the heart full of blood—lungs inflated with air. In the trachea, about an inch from the glottis, was found a piece of fat beef, sufficiently large to fill the whole passage. The child had hooping cough, and the beef was probably drawn in, in the inspiration of coughing, thus leaving the lungs permanently inflated.

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* At least eight pounds of fluid were passed every twenty-four hours for several days in succession, together with an abundance of patches of ulcerated membrane of a deep yellow color.

CASE VII. *Epilepsy and Paralysis.*—Mrs. S., æt. 30, received a blow on the left temporal bone, in the circus, in the year 1820, from one of the riders pitching on her head from the ring, when in full gallop. She was stunned by the blow and carried out. From that time she was afflicted with severe pain in that part of her head, which was subject to excruciating exacerbations from very slight causes. For the first two or three years, her mental powers were unimpaired, though at times her distress seemed so great as to threaten a speedy loss of reason. Epileptic fits then occurred frequently, and these were succeeded by a loss of consciousness and memory. At times she would lie insensible for hours together, incapable of motion or of being roused. These attacks became more frequent and severe. She always put her hand to the left side of her head when speaking of her complaint, and requested when dead that her brain might be examined. In the commencement of the year 1828, she became paralytic on the right side, and died in the ensuing February.*

Dissection. Drs. Stewart, Brinkerhoff, and Moore were present at the examination. On cutting through the temporal muscle of the left side, where the blow was received, the muscle was found three times its natural thickness and of a semicartilaginous texture. The temporal bone subjacent was likewise much thickened. The dura mater underneath adhered firmly to the bone, and could not be separated. The pia mater could not be distinguished, and the brain adjacent was firmly attached to the membranes, and was completely disorganized and softened in its texture. In the middle lobe of the left hemisphere of the cerebrum there was an abscess as large as a hen's egg, lined with an adventitious membrane of coagulable lymph, and containing a spoonful or more of pus. This was of a dull white color, and the brain surrounding the cavity was softened without any traces of vascular injection.

Remarks. While I would allow full justice to the merits of Recamier, who contends that "ramollisement," or softening of the brain, is a disease *sui generis*, a peculiar degeneration in which local inflammation never enters as a cause; in short, that it is the effect of a general derangement of the system, as an ataxic, nervous, or malignant fever—I must, at the same time, express my doubts respecting the correctness of this pathology. The case above detailed, as well as others which might be given, is directly in proof that inflammation of the brain from local injury may terminate in a softening, "ramollisement," of its substance. Indeed, we see no good reason why inflammation of the brain may not produce a diminution of its consistence, and also a change of color proportioned to the degree in which blood in the first stage, or pus in the second, may be infiltrated.

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* I regret that I am unable to give a more full detail of the symptoms of this interesting case. But I saw her only at a late period of her illness, and the above history was given me by her friends.

The symptoms, likewise, of cerebral inflammation, as Lallemand and Abercrombie contend, and as exhibited in the above case, are precisely those described by Recamier as belonging to "ramollisement." There was the same gradual diminution of sensibility and muscular power, comatose state, and dilated pupils, together with long continued headache, which this pathologist contends are diagnostic of this *peculiar degenerescence*.

Case VIII. *Poisoning by Tart. Antimony.*—This occurred in a child of a few weeks old, who swallowed about fifteen grains in solution; violent puking and purging followed, attended with convulsions which soon carried it off.

Dissection. Mucous coat of the stomach was red and softened; on holding it up to the light, it seemed of a bright crimson color. It contained a small quantity of slimy mucus, which appeared like the mucous membrane softened. The texture of the cardiac orifice seemed more changed than that of the pyloric. The duodenum was of a deep brown color, almost livid, and contained the same kind of substance as the stomach. The inflammation extended no farther than the colon. The vessels of the scalp, as well as those of the brain, were full of blood, showing a preternatural determination to the head. The ventricles were half filled with water, and there was effusion between the pia mater and arachnoid membranes. The right side of the heart was distended with blood. The mesenteric glands were much enlarged; some of them reddened and soft, others brown, or of a liver color, and indurated. These extended through the whole mesenteric circle and though unconnected with the immediate cause of death, are interesting when viewed in connexion with the fact, that the child had been evidently laboring under marasmus since birth.

Case IX. *Icterus, from Obstruction of the Ductus Communis.*—Mrs. L., aged 60, had been afflicted for several of the last years of her life with severe attacks of jaundice, which generally resisted with much obstinacy all remedies usually resorted to in such cases. The symptoms were, a sharp, seated pain in the region of the duodenum, extending at times to other parts, particularly the top of the right shoulder, attended with great irritability of the stomach and loss of appetite, frequent pulse, dry tongue, constipated bowels, high colored urine, fever, and a bright yellowness of the skin and eyes. Her death occurred, after much suffering, in March, 1826.

Dissection. The stomach was somewhat enlarged, and the mucous coat so soft as to be easily scraped off with the fingers. About a pint of dark colored, semifluid offensive matter was contained in it. In various places the coats were studded with red dots, the vessels radiating as if from a centre. The spleen was much shrivelled in size, of a harder consistence than natural, its structure and function both being evidently deranged.

The duodenum was found adhering firmly to the transverse fissure of the liver, by a fibro-cartilaginous mass, involving the hepatic and cystic ducts, and the hepatic artery and vein. The duodenal coats were thickened and indurated, obliterating its cavity to such a degree, that it would not admit any thing larger than a common goose quill.

The liver was less in size than in a healthy state, and more dense in structure. The gall bladder was totally obliterated from an adhesion of its inner coats, caused by inflammation, and this seemed to have been of long standing. The hepatic duct was involved in the centre of the cartilaginous structure already mentioned, and its duct completely closed. Its tubuli or ramifications in the liver were enormously distended, and filled with thin, pale colored bile. On cutting open the diseased mass, in the transverse sinus of the liver, about an inch from the commencement of the commom hepatic duct, there were found several biliary calculi of different sizes, weighing in all about two drachms. They seemed to be inspissated bile, friable, of irregular shape, and indigo color—and emitted a strong, unpleasant odor on combustion. Considerable quantity of a greyish purulent fluid was found in the cavity where they were lodged.

All the internal organs were tinged with yellow, and the inflammation had even extended to the bladder.

[*To be continued.*]

ART. IV. *A Case of Orchotomy, (or the Removal of a Diseased Testicle,) in which the Spermatic Vessels were secured in the Inguinal Ring, and the patient recovered.* By ABNER HOPTON, M. D., of Clinton, N. C.

JOSHUA HANEY, a stout bony man, aged 50, or thereabouts, applied to me for the purpose of having an operation performed on him for the removal of a diseased testicle. The disease had lasted seven years, in despite of every expedient which had been devised for its removal. The gland had become so enormously enlarged at the period of his application, that it was not only to him a source of extreme pain and irritation, but of great inconvenience; he was compelled, therefore, as the only alternative, (and truly a deplorable one,) to submit to the operation of orchotomy.

The operation was performed in the usual way. But, unfortunately, I found that, owing to the morbid state of the spermatic cord, and the extensive development of the disease, I should be compelled to secure the spermatic vessels within the abdominal canal; this was accordingly done, and, to my utter astonishment, the patient, after a tedious convalescence, and several relapses, finally recovered.

I wish to call the attention of the faculty particularly to this case; as I am induced to believe it has never hitherto proved successful. Mr. Averill observes, that in no case has this operation succeeded, and, therefore, deems it cruel to submit the patient to the pain of an operation where there is no prospect of relief. M. Lisfranc informs us, that in cases of this kind he has seen M. Dubois pull down the cord and then divide it; and M. Dupuytren cut up the inguinal canal to the internal ring, and there cut through the cord, but in all the cases the patients died. I am aware, also, that sir Astley Cooper, and others of no less celebrity, condemn the practice. But, in this instance, there was no other course left me to pursue, except it was to trust the case to the precarious operations of the "vis medicatrix naturæ." But this I was determined not to do; as I was thoroughly convinced that the instinctive principle, or remedial power, of nature, was here, notwithstanding her many resources, inadequate to the removal of such an extensive and virulent disease; a disease which had resisted her restorative operations for upwards of seven years. Hence, rather than submit the case to contingencies of this kind, I deemed it advisable, with the consent of my patient, to tie the cord within the ring, and then trust the issue to the plastic hand of nature: the result of which is, that my patient has perfectly recovered.

ART. V. *An Attempt to form an Artificial Eyelid, which happily succeeded.* By ABNER HOPTON, M. D.

A BLACK BOY of Mrs. Hall was gored on the forehead by an ox; the point of the horn had entered between the superior palpebra and ball of the right eye, in such a manner as to tear off the lid from the superciliary ridge, and to leave it hanging by a small filament of skin at the outer canthus.

Several attempts had been made to unite, or restore, the detached eyelid, but as all the efforts at restoration had proved abortive, the boy was at length brought to me for such aid as the case would admit of, or I might judge necessary or advisable.

The following expedient was devised for the formation of a new palpebra: After removing all the morbid appendages from about the eye, I separated the integuments from the superciliary ridge, removed the ulcerated edge of this by sharp scissors, and then cut off the tarsus from its morbid connexion with the external angle, and removed its ulcerated edge also; I now, by means of fine spiral stitches, (glovers' suture,) united the raw edge of the tarsus to the superior fold or integument of the superciliary ridge. I was particularly solicitous in preserving the tarsus, in order that the cilia might be preserved; for, without it, the appearance would be rather unsightly. Upon examining the eye a few days after, I was delighted to find that adhesion had taken place, and that this simple device had succeeded better than I could have expected. The boy has now a very sightly eyelid, answering all the purposes of a natural one.

ART. VI. *Case of Internal Strangulated Hernia with Post Mortem Appearances.* By E. PIERCE, M. D., of Athens, New York.

MR. P., the subject of this unfortunate case, was aged 24; active and muscular, but temperate and regular in his habits, and of a sanguineous temperament. On the 4th of May, 1829, without any previous indisposition, and while engaged at his usual occupation, (waggon making,) he was seized with a pain in the umbilical region, which, after a short continuance, had all the characteristics of the most violent and excruciating colic. The cathartic which he had taken about two hours before I saw him, had been thrown from the stomach, and the pain, with slight remissions, was recurring in paroxysms of increasing intensity. Cathartic injections were now used, and tinct. morph. was given in large doses. The injections soon produced copious stools, of a natural consistency and of a healthy appearance. But no sensible relief was afforded either by the evacuations or the anodynes, and it was evident that only the large intestines had been moved. He was now bled *ad deliquium.* Decoct. senna and salts was thrown up as an injection, and calomel, in fifteen grain doses, was given every twenty-four hours, followed by oil ricini, in ℥iss. doses. These were retained till after the second dose of the oil was administered, when vomiting again returned. The bleeding produced a little mitigation of the pain, but only for a short interval. Warm baths had no better effect. Hot fomentations of the parts affected had been persevered in from the commencement of the attack. After the first eighteen hours the pain was partially lulled, but the soreness and distention of the bowels was increasing. Venesection was three times repeated. The pulse, which was small at the first, rose but slightly after the first and second bleedings, but not at all after the third or fourth. A large epispastic to the abdomen and tobacco injections had no better effect than the other remedies. Frequent vomiting of feculent matter, sinking of the pulse, and coldness of the extremities, now indicated the near approach of death—which took place forty-four hours after the commencement of the attack. Some mechanical obstruction was suspected, and leave obtained for post mortem examination.

Appearances on dissection two hours after death. The examination was made in presence of Dr. Benton and my brother. An incision was commenced at the lower extremity of the sternum, and continued down to near the umbilicus, branching thence to the anterior superior spinous processus of the ilium. The flap was thrown down, and about a quart of bloody fluid removed from the cavity by a sponge. All the parts in view were in a high state of inflammation. The ileon was much distended. Following with the fingers the iliac mesentery downwards, a firm band was felt at the cæcum, where this intestine is tied down to the internal iliac muscle, or rather to the left of this, and more directly over the spinal column. Throughout this band, a portion of the ileon appeared to have passed, but the nature of the mischief was not fully apparent till the hand was passed under the base of the flap, when a portion of the ileon, of about twenty inches, was thrown up in a perfectly mortified state. It was now evident that this portion of the gut was completely strangulated. The band could be seen entirely surrounding it, and drawn so tight, that a small probe could not be passed under it without difficulty. A little farther examination proved this band to be formed by a twist or coil of the processus vermiformis of the cæcum. The extremity of this processus, beyond the portion occupied as the band, (which was about two and a half inches,) was the size of the ileon strangulated, and in a state of gangrene. The extreme end of this appendix was tied down directly over the left internal iliac muscle, by a small round ligament, three or four inches in length, which appeared to be composed of the concentrated and prolonged peritoneal covering of the processus.

This must probably have been a *lusus naturæ*, as this patient never had any former disease of the intestines. The only case which I have ever read bearing any analogy to this, is found in the the 7th vol. Med. Chir. Review. In this case, a portion of the ileon had passed through a band, or bridle, as it is termed, became strangulated, and caused the patient's death. No account is given of this bridle, except that it was a morbid production, supposed to be the consequence of enteritis, to severe attacks of which the patient had suffered some years before. In the lectures of sir A. Cooper, by Mr. Tyrrell, the possibility of such a case is admitted; and mention is made of a preparation in the museum of Guy's Hospital, of a large portion of the ileon thus strangulated. This distinguished lecturer remarks that as these cases cannot be known but by post mortem examinations, they are therefore beyond the reach of surgical aid.

Dr. Johnson, in his report of the case above mentioned, would seem to regret that he had not followed the example of the German surgeon, and attempted to relieve his patient by an operation. On the failure of a reasonable perseverance in other means, and no proof of mortification existing, if the patient can place his finger on the part affected, and should that part be the anterior or either of the lateral surfaces of the abdomen, and still further distinguishable by circumscribed hardness and soreness, an operation would offer a fair chance of relief; and under such circumstances should always be proposed. But few patients, I fear, would submit to it, till inflammation had gone too far to permit a cure by an operation, even could the obstruction be removed. In the case of my unfortunate patient, the stricture was too deep to be released without the introduction of the whole hand, and there were no external marks indicative of the seat of the affection.

ART. VII. *Practical Observations on Punctured Wounds.* By JAMES FOUNTAIN, M. D., of Yorktown, Westchester County, New York.

ALTHOUGH large wounds are often appalling and dangerous from their extent or the importance of the part affected, yet in none is the peril so frequently hidden as in the punctured, especially if inflicted with a fine, piercing instrument. Unless some considerable hemorrhage ensues, such cases seldom attract much attention until the sympathies of relations are awakened, and some violent nervous affection announces the time lost. It is a singular circumstance, and one well calculated to lull the wounded into a fatal security, that these apparently trivial lesions, even without any remedial means, are often productive of no inconvenience whatever. I have known a pitchfork to be thrust into the foot without any subsequent injury, while the puncture of a pin has more than once produced tetanus, and the slightest stab of a penknife near the knee joint has been productive of the most hideous inflammation, mortification, and even death.

Punctured wounds are liable to produce two morbid processes, excessive inflammation and tetanus, either of which it is the duty of the surgeon to prevent when timely consulted, or to mitigate or remove when they are developed.

When violent inflammation is about to supervene, sometimes after an indefinite interval of ease, at other times immediately after the accident, the patient is seized with violent pain in the part or near it, followed by rigors, amounting frequently to shivering, a sinking of the pulse and powers of life generally, with a deathlike coldness of the extremities; the suffering is intolerable; he writhes, groans, sighs, and shivers, and vomiting frequently ensues. The wounded part is neither tumefied, hot, nor tender to the touch; at length, after some hours of indescribable suffering, the powers of life begin to rally, and a most violent inflammation is developed, followed frequently by extensive suppuration or mortification, and death of the limb or of the whole body is the consequence.

From this history, which is the result of observation, it is evident that three morbid conditions are likely to obtain; they may be called—1st, the irritative; 2d, the inflammatory; 3d, the suppurative; and these three conditions may be developed in a greater or less degree in all wounds, concussions, and contusions, except in cases followed by tetanus. This last effect appears to be an extension of the first stage, and a consequent perversion of the laws of the animal economy, and death ensues from the general perturbation or interruption of the process of respiration. When tetanus is about to supervene, no pain is experienced, and this may, perhaps, be deemed an objection to the term "irritative." But it must be recollected that the nervous system may be irritated, at least its motive portion, without any manifestations of the sensorium; thus, epilepsy has been kept up by a spiculum of bone in the cranium, or by worms in the alimentary canal, without any *sensible* irritation.

From established pathological doctrine, confirmed by clinical observation, it is fairly inferable that the first stage is the cause of the second; consequently, to prevent the first, is to parry all the direful consequences that so frequently follow in train.

From the foregoing premises it must appear evident, when opportunely called, that our first and all important object must be to prevent or mitigate nervous irritation. Taking into consideration the state of the system during the first or irritative stage, who would attempt by bloodletting still further to enfeeble the recuperative effort of sinking and perturbed vitality? Yet such a procedure is inculcated by surgical writers. Dr. Samuel Cooper observes, that "For the *first stage* of punctured wounds, the indication is to guard against the attack of violent inflammation." So far, very good; but now for the means: "Where no considerable quantity of blood has been lost," continues he, "*general and topical bloodletting* should be practised." This grand error of Dr. Cooper grew wholly out of his want of discrimination between *preventive* and *curative* measures. Instead of "guarding against the attack of violent inflammation," he is prescribing for its removal. These means are well calculated for the second or inflammatory stage, but they are directly the reverse of what they ought to be in the first.

When no large artery is wounded, I have always found the indication in the first stage to be, to raise the action of the vascular system, either locally or locally and generally, till the excitement is sufficient to overcome the nervous irritation, and, at the same time, in violent cases, to allay nervous irritability. The means of fulfilling this indication are stimuli and anodynes. As a stimulus, caloric, or heat, holds preeminence, and is the most natural. The wounded part should be immediately and thoroughly heated through; and the most eligible method of accomplishing this object is by hot spirituous fomentations, or through the medium of hot poultices. A quantity of tobacco, when at hand, should be boiled a few minutes, and Indian meal added till it is of a proper consistence, and a large quantity applied as hot as can well be borne. By a large quantity, I mean not the size and thickness of a dollar merely, but a poultice six inches or so square and one thick. This should be kept hot by holding over it a heated shovel or some such instrument. If the whole system sympathizes, and the pulse is feeble, the surface and extremities cold, a large anodyne should be administered, followed by frequently repeated doses of camphorated spirits, ether, aqua ammoniæ, and hot vegetable infusions; and heated bricks, or jugs of hot water, should be applied to the extremities and back, until all chilliness and pain vanish and a universal sweat prevails. An aged and respectable neighbor of mine told me he had never known any injurious consequences to arise in his numerous family from punctures, which were common among them; and his mode of prevention was immediately to place a fold of muslin, wetted with vinegar, over the wound, and apply to this a case knife as hot as could be endured—wetting the rag and heating the knife every few minutes for half an hour. This being done no danger was apprehended; and the practice, though not quite so ceremonious as local bloodletting, was quite as philosophical.

The celebrated Dr. Dorsey, of Philadelphia, indeed, mentions stimulating treatment, but he introduces it so circumstantially as to render it unimportant. He observes, "When punctured wounds occur *in extremely hot weather*, it is safest to apply stimulating substances to *excite inflammation*." This short sentence of the professor, I must be permitted to say, carries with it several erroneous ideas. The heat of the weather being a stimulant, less additional stimulus becomes necessary. The warmth of the season does not, therefore, render wounds more, but less capable of producing tetanus. The inhabitants of warm climates being more irritable, a proper degree of stimulation is, with them, more imperiously demanded. In this climate, however, people in health are no more irritable in summer than in winter, for tetanus occurs quite as often in the latter* as in the former season. So that, following Dr. Dorsey, a due degree of stimulation would, most probably, be neglected in cold weather, when it is most required.

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* The author of the introductory discourse to Dr. Gregory's Practice of Physic observes, that "tetanus, in this climate, never occurs in winter." This error arose from the sweeping manner in which this discourse was

I must beg to transgress my limits so far as to observe, that nervous irritation is the first effect, not only of punctured wounds, but of all others, as well as concussions and contusions, and that it requires a corresponding course of treatment—I mean stimulation. This stage not unfrequently continues several days, especially in elderly people and in cold weather. An aged gentleman told me he felt an instant aggravation of pain on being bled for a concussion, which, the doctor said, proceeded from the *starting* of the blood which had been stagnated.

A young lady from New York was thrown into the most violent spasms by being bled on a cold day immediately after having been thrown from a sleigh. To obviate these spasms warmth was applied, and she was thus partially relieved only, however, to be bled down again on the second and fourth days. I was called in on the fifth, as her surgeon told her she must be again bled. I prescribed Dover's powder ten grains, camph. four grains, every four hours, with a warm foot bath, hot infusions, and bladders filled with warm water, applied to her shoulders and side, and every precaution to be taken to warm her thoroughly. In twenty-four hours every pain vanished, and a cathartic finished the cure. Notwithstanding this length of time, on a scrupulous examination, it was evident she was still laboring under nervous irritation.

2d. *Inflammatory stage.* Inflammation having been developed, the first question which arises is, whether it can be reduced, or whether it must proceed to suppuration. If vascular action is so excessive as to threaten gangrene, every means of reduction must be put in requisition; bleeding, leeching, purging, antimonials, and cold applications should succeed each other in rapid succession, or be instituted simultaneously. When there are no apprehensions of gangrene, and suppuration appears inevitable, these antiphlogistic measures should be used less vigorously and soon changed for emollient poultices, which should be large, soft, and unirritating.

For the subsequent treatment of the various contingent effects of wounds, as also tetamus, I must refer to systematic writers, as their details would exceed my prescribed limits.

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written. The son of John Hilliker, of Staten Island, died of tetanus in January, and two others in New York, to my recollection, died in the winter, of the same disease.

[Dr. Clements, an eminent veterinary surgeon of New York, also died of tetanus in the winter season.—ED.]

With regard to tetanus, I would, however, observe, that from my experience and reading, I should trust the cure to full vomiting of tart. antim., followed by effective doses of opium, and blisters to the whole spine. A case of traumatic tetanus cured by tart. antim. will, at some future period, be given.

ART. VIII. *Fatal Case of Delirium Tremens.* By JOHN GORRIE, M. D., of Abbeville, N. C.

COMPARATIVELY frequent as delirium tremens has become, its nature, and, consequently, the best mode of treating it are not universally known to the medical profession. Instances, indeed, occasionally occur, of physicians who have never seen a treatise on the complaint; nor is this a matter of surprize, when nearly all the few accounts of it that have been published are only to be found scattered through a vast range of periodical works. Little attention as this deplorable affection has hitherto commanded, it will not be assuming an undue importance for it to say, that there is no disease in which the want of a generally acknowledged view of its pathology is more severely felt. Running its course, where in any degree violent, rapidly, and where injudiciously or inefficiently managed, almost always fatally, it demands an energy and a peculiarity in the treatment that would never be suggested by the general principles of medicine; and, indeed, verifying the maxim, that "general rules in physics kill their exceptions." The enormous extent to which an acknowledged specific, opium, must frequently to given to obtain its salutary control over the complaint, joined to the consideration that its administration must be tentative, produce, particularly with the mere routine practitioner, a predilection for less dangerous though less efficient modes of cure, or a timidity in its use that frustrates the end aimed at. Established rules for its exhibition, and the repeated evidence that the publication of cases may afford of their utility, can alone remove this timidity.

To aid in dispelling unnecessary fears, I am led to offer the following case to the notice of the public. Although unfortunate in its termination, it affords some view of the comparative benefit to be derived from different modes of treatment, and exhibits evidence, if evidence be necessary, that the pathology of delirium tremens depends upon a morbid irritation of the brain and nervous system.

The subject of this case was in the meridian of life, of a constitutionally athletic frame and vigorous intellect, both of which had become enervated by long continued habits of intemperance. I was called to see him on the afternoon of Thursday, the 7th of last August. A member of the family informed me, on my arrival, that he had been slightly indisposed for two or three days previous, during which he had been bled and had taken a cathartic; and that, on that morning he had taken an emetico-cathartic of ipecac. and calomel, which had discharged from his stomach much bilious matter, and had been attended by what were considered alarming affections of the body and mind, as, an apparent inability to swallow, great depression of spirits, with some aberration of intellect. I found him complaining of considerable depression of spirits; his skin was cool and moist; pulse full, somewhat quickened, but easily compressed; tongue thickly covered with a yellow fur; bowels had not been freely operated on. Prescribed sixteen grains of calomel with a grain of opium, and directed these to be followed by pills of calomel, jalap, rhubarb, and aloes, of each equal parts, in doses of one every hour, until they should operate on his bowels. I also left a Dover's powder to be given after their operation; and directed that if the peculiar symptoms of the morning returned, he should be allowed spirituous liquor.

Friday. My patient told me he was better; the cathartic had opened his bowels freely; he had slept during the night, but not soundly; I found his skin moist, pulse full and soft, tongue cleaner than yesterday, but still furred; no return of the peculiar irritation of yesterday. Ordered a cathartic of pills of the same kind, to be taken as before, and to be followed by a Dover's powder after their operation.

Saturday. Was sent for early in the morning. On my arrival was informed by the family, that my patient had been delirious occasionally, since daylight. He stated that he had passed a horrible night; was suffering under great dejection of spirits, with the assurance that he was going to die; was very restless; complained of weakness and excessive nausea; skin cold and covered with sweat; slight tremors of the hands; weak, quick pulse; tongue loaded with a brownish yellow fur; eyes slightly suffused. The cathartic of yesterday produced sixteen stools of a bilious appearance, and its operation still continued. Prescribed a two grain pill of opium, warm toddy, and a mustard plaster to his stomach. Apprehending that I had before me a case of difficult management and great danger, I requested counsel; and Dr. Bonner, a distinguished practitioner, was sent for.

In the course of a few minutes my patient was attacked with delirium, accompanied with small contracted pupils, great intolerance of light and sound, flushed face, throbbing of the temporal arteries, fulness of pulse, with a return of heat and dryness on the surface. Conceiving there was danger of his being destroyed by the great determination of blood to the head, I took about ten ounces of blood from the temporal artery, and applied mustard plasters to his feet. These means lessened the excitement of the brain, though they did not reduce that of the system.

At this time Dr. Bonner arrived. Regarding the excitement of the brain, as well as that of the general system, incompatible with the further use of opium, he advised the administration of assafœtida and carbonate of ammonia, in doses of five grains each, to be repeated every hour until the symptoms should be relieved. A dose of these medicines was given, and immediately rejected from the stomach with some bilious matter. Dr. B. now recommended the prompt administration of an emetic, which was prepared and left to be given by the family.

On my return to my patient, which was unavoidably protracted till after an interval of four hours, I found him in nearly an exhausted condition; there was a cold, clammy state of the skin; a rapid, small pulse; great watchfulness; with frequent vomitings and purgings. The emetic had operated, and it was succeeded, in the course of two hours, by the above spontaneous vomiting and purging. In accordance with the plan agreed upon, I administered a pill of assafœtida, and some carbonate of ammonia dissolved in toddy. My patient expressed great horror at the assafœtida, and refused to swallow any more; and, as it did not, nor was calculated to lessen the irritation of the stomach and bowels, and as the objection to opium, supposed to be present in the morning, no longer existed, I changed the prescription to laudanum and carbonate of ammonia. After repeated trials, I found that these medicines, in common with every other fluid, were obstinately rejected by the stomach. I now commenced giving crude opium; which I continued every half hour, without much regard to the size of the dose, though varying from one and a half to three grains, till, with the aid of an injection of laudanum, the vomiting and purging were allayed and sleep induced. This was about 12 or 1 o'clock in the night.

Sunday. Visited my patient at 7 o'clock in the morning, and found him asleep. Awaking soon after, he mentioned that he had been much relieved by the opium, and appeared to be comparatively free from his distressing disease. This appearance was, however, fallacious; for, in a little time he complained of a return of nausea, which, in a few minutes, was followed by a recurrence of the vomiting and purging, with symptoms of returning delirium. I recommenced the use of opium *per orem et per anum*, in doses of two grains by the former, and a drachm of tincture by the latter, every half hour; the former of which I directed should be continued till he should fall asleep; and the latter, till the purging ceased.

Professional business required that I should absent myself (at nine A. M.) for about an hour from my patient, and circumstances intervened, over which I had no control, to preclude the possibility of my returning; so that, for the remaining history of the case, I am indebted to his friends and the physicians who subsequently saw him.

Dr. B. informed me he visited him at 4 P. M., that he found him in an apparently sinking state; was told he had not slept soundly since I left him; and that the purging, which had been suppressed in the early part of the day, was returning. He applied a suppository of twelve grains of opium, and increased the dose internally to three grains, with the addition of five grains of camphor. These doses appeared to revive him again; and, being unable to stay, he repeated my direction of the morning for their continuance.

The patient soon relapsed under the employment of this prescription; and a physician of considerable popular reputation, then in the neighborhood, was sent for. He arrived late in the evening. On receiving an account of the previous treatment, he gave it as his opinion, that where five or ten grains of opium failed to cure delirium tremens, a larger quantity would not have a salutary effect; and, of course, as four times the largest amount of this article had been given during the last twenty-four hours, it could form no part of his *methodus medendi*. The medicine in which he placed all his hopes of restoring the patient to health was ammonia. Under the use of this remedy, it is almost needless to say, the patient continued to sink rapidly; and finally expired soon after midnight.

This case I view as of so interesting a character, that I cannot forbear subjoining a few remarks.

Considering delirium tremens as existing sometimes under so mild a form as to be amenable to an exercise of the general principles of medicine, I did not think that the few slight symptoms which were reported to have been present in my patient, on the morning of my first day's visit, called for any peculiarity of treatment. The absence of every symptom of irritation, and the subsidence of the effects of his bilious derangement that I observed on my second visit, proved to appearance the correctness of this opinion ; and, indeed, I had such good reason to think my patient was then but little indisposed, that I thought my further services unnecessary, and told him I should not visit him again unless sent for. Whether I was deceived in supposing the disease had no existence when it was only masked, I am unable to judge; but it was an event, against which my previous knowledge of the habits of my patient had prepared me to guard; and if I were deceived, I must view it as a strong proof of the insidious character of the complaint. Under either view the disease cannot be considered as having manifested itself plainly previous to Saturday, or the night before. It was then developed in a violent manner. The several stages of oppression, excitement, and collapse, ran their courses rapidly, and were more distinctly marked than in any case which I had before seen, or of which I recollect to have read. The vomiting and purging were features of this case which, so far as I know, have not been described as belonging to delirium tremens.

Judging, at this period of the event, of the relative advantages derived from the different kinds of treatment pursued, when the nature of the case became obvious, it affords another evidence, to those already before the world, of the great remedial power of opium in delirium tremens. Of the medicines employed, it was the only one that exerted the least beneficial effect on this case; and, from the irritation so plainly manifested throughout its course, I feel assured it was the only article of the materia medica, whose operation is understood, that afforded a fair prospect of effecting a cure. That it was not successful must be attributed to too much timidity in its administration. The unfortunate result of this case has convinced me that in this disease, as in some others, the operation of opium in a state of health, or in ordinary states of disease, should be almost disregarded ; and that there should be no stopping point to its continuation but the subsidence of the irritation of the brain, which constitutes the disease. Although the production of this effect should be the only end to its administration, yet it must not supersede an attention to the quantity given at a dose, and to a due interval of time between the doses; for here, as in health, though the quantity given must be beyond comparison larger, opium may exhaust the entire as well as allay the increased energy of the sensorium. It will be impossible, from the diversity in violence which the disease presents, to lay down a rule for the administration of opium, that will be applicable to every case, but a good general one would be to commence with a minimum dose of at least two grains, and increase it.

in arithmetical ratio, at intervals of an hour, till sleep be induced. If this course had been pursued with the above case, I entertain as little doubt as human reason applied to an event of this nature will admit, that I should have been able to have saved my patient.

ART. IX. *Casses of Polysarcia Adiposa in Childhood.* By JAMES McNAUGHTON, M. D., Professor of Anatomy in the University of the State of New York.

THE subjects of the following observations are at present exhibited in this city, on account of their extraordinary size and weight. In the last particular, they are very remarkable, and have scarcely been exceeded by children of the same ages in any part of the world.

They are natives of Dutchess county, in this state, and belong to the same family. Their parents are not above the ordinary size, but of good constitutions, and in rather humble circumstances. The children being in a great measure helpless from their unwieldy bulk, require the constant attention of their parents, who, on that account, and their narrow means, are reluctantly compelled to resort to the disagreeable expedient of exhibiting them to the public, for the purpose of earning a livelihood. My principal object in writing this notice, is to call the attention of the curious and charitable to these unfortunate but interesting children.

The elder sister, Susannah Tripp, is in her sixth year. When five years and eight months old, she was three feet ten and a half inches high, and measured four feet two inches around the waist, eighteen inches round the arm, twenty-one inches below the knee, and weighed 203 pounds.

The younger sister, Deborah, is in her third year. At the age of two years and ten months, she was three feet four inches high; around the waist, three feet nine and a half inches; around the arm, fifteen inches; below the knee, sixteen and a half inches, and weighed 119 pounds.

These children, at the time of birth, were not above the common size; neither, it is thought, having then exceeded seven pounds in weight. They continued to grow like other children, until the fourth month, when the rapid growth in both cases became remarkable. The elder girl, at the end of four months after birth, weighed twenty-five pounds, when a year old sixty, and when two years eighty pounds, which is about the weight of ordinary girls at the age of puberty.

Soon after this period, she had an attack of fever which, for a short time, retarded her growth; but after her recovery she grew even faster than before. She still continues to grow, but the parents seem to think with less rapidity than formerly. But it is somewhat doubtful how the fact stands, as she has a very great aversion to being weighed, being apparently aware of her monstrous bulk. Her enormous weight is principally owing to the great accumulation of fat; but her whole frame is much more developed than is usual at her age. The bones of her wrist are apparently as large as those of an ordinary adult male. She also possesses much more muscular force than is usual; she, indeed, grasps and pulls with the force of a full grown woman, when she chooses to exert her power. The only deformity about her is the bending of her legs, which have yielded to the heavy weight they have had to sustain; the bones being yet soft, and imperfectly ossified. This deformity, together with her great weight, render her almost incapable of walking without support. To the same circumstances, her comparatively slow increase in height is attributable. In all other respects, she seems to enjoy the most perfect health. Her disposition is variable, often ruffled by the most trifling causes; but, upon the whole, she seems among acquaintances cheerful and happy, and not unfrequently merry.

The younger sister, Deborah, is very lively and playful, and, considering her bulk, quite active. She too, however, begins to feel the effect of her weight, in the bending of her legs; but the deformity is much less perceptible than that of her sister. With the exception of the legs, these children are well formed, and even handsome. They both have dark auburn hair, hazel eyes of beautiful expression, with rosy cheeks, and soft smooth skins, resembling, however, the skins of plump females over twenty, more than those of children. Indeed, it is almost impossible at first sight to realize that they are children. Their large size, broad plump shoulders, and prominent breasts, impress the beholder with the idea of their being full grown women. But in all their feelings and actions they are mere children. When we first visited them, the younger child took possession of a handsome cane belonging to one of the spectators, and then in great pride strutted with it through the room, and was persuaded with some little difficulty to relinquish it. Subsequently, the sisters had quite a serious misunderstanding respecting a few marbles, and some strings. In children of their ages, we would not be surprized at such occurrences; but their adult appearance rendered their quarrel about such trifles indescribably ludicrous. However, although mere children in understanding, yet I am inclined to think they are equal to ordinary children of the same ages and opportunities, in point of intellect; indeed some of their observations indicated a degree of shrewdness above their years.

According to Haller, the mind, in cases of extremely rapid growth, seldom keeps pace with the body in its development; for, he observes, speaking of this subject, "*mens solet infantilis manere*." There does not appear any approach to puberty in either, as in many of the cases of early growth recorded by Haller in the 8th vol. of his Physiology: they seem to have no feelings or inclinations but such as belong to ordinary children of the same ages.

Both these children passed through the period of infancy without any serious disorder, and seemed to suffer even less than ordinary children from the process of dentition. They have never had the measles or hooping cough, and seem to be subject to no complaint, except cough, from slight exposure to cold, and occasional diarrhœa. They have enjoyed almost uninterrupted health thus far, and been blessed with keen appetites and good digestion; and have never been stinted in their allowance of food and drink. In their diet, there has been nothing peculiar: it has been such as children are usually fed upon in the country; and that, I believe, means every thing they take a fancy to that is used in the family. There seems to be no particular diet for children after two years of age, different from what is used by adults; to which negligence, doubtless, many of their diseases, then and afterwards, must be attributed. The mother thinks that they eat and drink rather more than ordinary children, to which I am willing to give credence, from what I have seen of their powers in these respects.

Their sleep is soft and easy, and does not exceed the ordinary duration. They have uncommonly strong pulses, such as I have never felt in children, and not very often in adults. This indicates great vigor of the heart and arterial system. I observed, also, that although the weather was very warm, the thermometer being between eighty-five and ninety degrees in the shade, they seemed to perspire much less than other people. Upon questioning the mother on this point, she informed me, that they seldom perspired much, and that they seemed to suffer no more inconvenience or oppression from the greatest heat of summer than thinner children; neither are they subject to excoriations of the skin where surfaces are habitually in contact. This can only be attributed to the remarkable smoothness and delicacy of their skins, and to the scantiness of perspiration.

I am inclined to attribute the extreme corpulency of these children chiefly to a few of the circumstances already mentioned: namely, a good appetite and digestion, a powerful circulatory system, a sparing transpiration, inactivity of body, and easy minds, exempted from sickness, from care, and from trouble. The operation of all these circumstances is favored by constitutional predisposition to obesity, and by what is always indispensable to the production of such a state of body—abundance of nourishing diet and drink. That all the circumstances above mentioned favor obesity, the most eminent physiologists and pathologists acknowledge.*

Beclard mentions the influence of a humid atmosphere on birds (which must operate by diminishing transpiration) to be so great, that they have been known to have become fat under it in the space of twenty-four hours.†

If such be the case with birds, there is no reason why a sparing perspiration should not favor obesity and growth in general in the human species. I am inclined to believe that the growth of the subjects of this paper is, in no small degree, referable to that peculiar condition of the extreme vessels, with which their limited perspiration is connected. What this precise condition is, it would be futile to attempt to explain. We cannot penetrate so deeply into the secrets of nature—the door is closed against us.

On the mother's side there is an hereditary predisposition to corpulency. She informed me that several members of her family have been remarkable for their size. She has a brother in Canada who weighs upwards of 300 pounds; and she herself has exceeded 227, though at present she must be much short of that weight. This predisposition, in whatever it consists, must be regarded as the most powerful cause of the excessive growth of the children. Without it all the causes favorable to obesity, above mentioned, would be insufficient; for we often see them in combination, as much as in these instances, without the same result. Since it is out of our power, however, to explain the essence of any function, it would be a waste of time to speculate on phenomena purely vital. Peculiarity of constitution can no more be accounted for, than the color of our hair, or the expression of our countenances. I shall, therefore, leave the explanation to those who have more leisure, and can see farther into the arcana of nature. It may not be unworthy of remark, that there are two or three other children, belonging to the parents of the subjects of these remarks, who are not larger than what is common.

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* Adelon, Physiologie de l'Homme, tom. iii. p. 576. Haller, Elementa Physiologiæ, tom. 8vo. lib. xxx. McLean on Hydrothorax, p. 179.

† Anatomie Generale, p. 168.

There are, on record, many instances of extreme obesity. Individuals have, now and then, been found weighing from 400 to 700 pounds and upwards. Some are said to have weighed 800 pounds; but I have not seen any particular history of any individual who was so heavy. Daniel Lambert, who, at the time of his death, weighed 739 pounds, was, perhaps, the heaviest of whom we have any authentic account. Extreme corpulency is most apt to occur towards the decline of life; instances of it are comparatively rare during childhood. Haller, however, mentions several such cases in the 8th vol. of his Physiology; many of them were also instances of early puberty. In his list, however, there are but two that can be compared to our subjects in regard to weight: one of these, a boy five years old, weighed 250 pounds; and another, a boy of three years old, 140 pounds. Tulpius, too, mentions one instance in which a boy of five years weighed 250 pounds. Upon examining the authorities quoted, I find that this is not the case quoted by Haller. These American children, therefore, have scarcely ever been exceeded in size or weight, in any part of the old world; and may, perhaps, at the present time challenge a comparison with the largest children of the same ages in Europe. Had Buffon seen them, he would have thought that the offspring of the human species, at least, did not degenerate in the new world.

Visitors have uniformly expressed a great desire to know what would be the probable fate of these children—whether their growth would be likely to continue in the same ratio until the adult period; and if it did, whether they would be likely to live long? According to Haller, children of this kind are generally short lived; but occasionally their inordinate growth ceases early. Speaking of such cases, he says, "Plerumque ejusmodi precoces pueri brevis ævi sunt. Est etiam, ubi nimium hoc incrementum mature, et a sexto anno cessavit."*

When obesity has continued for a considerable length of time, and has exceeded certain bounds, it brings on a train of evils, such as to render life a burden. It is injurious to the most important functions of the animal economy. Locomotion becomes difficult, and even impracticable; respiration becomes laborious and difficult; hence, asthma, cough, dyspnœa, &c. The sleep becomes disturbed with nightmare and frightful dreams. The function of digestion becomes impaired, causing colic and diarrhœa; and, finally, unless the sufferers are suddenly carried off in a fit, or by an inflammation of the chest, they become dropsical, and thus terminate their miserable existence.*

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* Elementa Physiologiæ, lib. xxx.

Since, then, such grievous evils proceed from obesity, and since the circumstances which favor its increase are never known, it is the interest of all persons predisposed to corpulency, to take the necessary precautions to guard against its accession; and it is the duty of parents to adopt similar measures to prevent their children from becoming victims to appetite and indolence.

The great means of preventing corpulency where there is a strong predisposition to it, and of removing it when it already exists, consists in abstaining from rich fat meats and malt liquors, and substituting a spare diet, consisting of vegetables and farinacious articles, drinking nothing but water, and that sparingly; abridging the quantity of sleep, and taking it on a hard bed; and in using active regular exercise in the open air. Medicine should only be used to relieve particular symptoms.

The life of the Italian nobleman Cornaro, and the history of the fat miller of Essex, recorded by sir George Baker in the 2nd vol. of the Transactions of the College of Physicians of London, are worth volumes to those subject to the evils arising from obesity. They show most satisfactorily that even when the tendency to corpulency is excessive, it can be regulated completely by exercising sufficient self denial. There are but few, however, who have firmness enough to pursue such a rigid course as is necessary; hence they fall victims to their own appetites. And there is too much reason to fear that the poor children, who are the subjects of this paper, are destined to an early grave.

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* Jansen, Consideratio Physiolog. et Path. Pingued. Animal p. 126. McLean on Hydrothorax.

REVIEW.

Art. I. *Elements of Pathology and Practice of Physic.* By John Mackintosh, M. D., Acting Surgeon to the Ordnance in North Britain, Lecturer on the Practice of Physic in Edinburgh, &c. Vol. I. 8vo. pp. 484. Edinburgh, 1829.

The same reasons which moved Boerhaave and Cullen to publish systems of the theory and practice of physic, are assigned by Dr. Mackintosh for the appearance of the present work. The chief object is modestly stated to be to furnish those students who attend his lectures with a text book, but the author does not hesitate, at the same time, to acknowledge his confidence that his work will, "with all its faults and imperfections, be indulgently received by the profession, as an humble attempt to establish a pathological system of medicine." So Dr. Cullen, after informing us that, in imitation of his great predecessor Boerhaave, he was desirous of supplying his class with a book of reference, adds that he was further induced to undertake the task "because in every branch of science with respect to which new facts are daily acquired, and these consequently giving rise to new reflections, which correct the principles formerly adopted, it is necessary from time to time to reform and renew the whole system, with all the additions and amendments which it has received and is then capable of." While Dr. Cullen, however, undertook the task, of which he acknowledged the difficulty, with great and becoming diffidence, and spoke of the errors of his predecessors with respectful forbearance and indulgence as the inseparable attendants upon the limited discoveries made in their time, Dr. Mackintosh, with little veneration, and an unmerited and unbecoming harshness, denounces Cullen's First Lines as "a mass of error and an unpathological system of medicine, which it would be absurd to reprint in the present state of science." Cullen foresaw, with the prophetic eye of a philosopher, that his system "would, like all other systems, hereafter suffer change;" but he could scarcely have anticipated, that in forty-six years after he had set the last seal upon his golden work, an eleve of the very school which his genius may almost be said to have created, and which it undoubtedly elevated to the loftiest pinnacle of usefulness and splendor, would denounce that work in such unqualified terms. That immense advances have been made in pathology since the time of Dr. Cullen; that unsuspected sources of disease have been developed by the knife of the morbid anatomist, and bolder and more successful methods of treatment adopted; that the taste for the speculative hypotheses which formed so prominent a feature in his writings has become almost obsolete; and, moreover, that his own peculiar doctrines find few, if any, supporters at the present day, we are not disposed to deny. But we must insist upon the undeniable fact, that, notwithstanding the improved condition of medical science, the First Lines of Dr. Cullen have not yet been equalled, much less surpassed, by any elementary treatise which has succeeded it. Its masterly descriptions of disease, its accumulated stores of valuable and interesting facts, its chaste, vigorous, and classical style, and the acute power of discriminating and classifying diseases which is displayed in its every section, still recommend it as the most valuable text book for the student and teacher of medicine. We are not alone in this opinion, nor does Dr. Mackintosh express the opinions of all his professional brethren in Great Britain. Dr. Gregory, in his Elements of the Theory and Practice of Physic, a work which deserves, for its modest and unpretending style and its vast learning, to rank next to the First Lines of Cullen, avails himself of every opportunity to render justice to the various merits of that great physician, and boldly, and, as we think, justly, pronounces his system to be founded on a close observation of the phenomena of disease, and that it will forever continue to be the surest basis of any elementary view of the theory and practice of physic. Dr. Mason Good, whose acquirements and literary judgment have been unsurpassed in the present generation of physicians, has likewise borne his testimony to the merits of Dr. Cullen, and emphatically deplores the fashion which has been growing both at home and abroad of making exaggerated exposures of his defects. To those who concur in the opinion entertained by these high authorities of the value of Cullen's labors, it will be gratifying to learn that a new edition of the First Lines has already appeared in part at Edinburgh, containing a view of the most important facts which have been ascertained, and principles which have been adopted in regard to the nature and treatment of diseases, since the death of the author. The edition was commenced by the late Dr. Wm. Cullen, grand nephew of the author, and, after his decease, which took place a few months ago, continued by Dr. James Crawfurd Gregory, son of the late celebrated professor of the practice of physic in the University of Edinburgh. In this work all the additions made to pathology have been carefully noted, and ample references made to all authorities that have appeared since the death of Cullen. We have not, as yet, seen this work, but are indebted for the information we have of it to our very able and learned contemporary, the Edinburgh Medical and Surgical Journal. We have been induced to notice it because we wish the profession in this country to be aware that Dr. Cullen is not altogether forgotten, even in the very centre of his glory, as certain systematics would fain have them believe, and we would guard them against that dangerous spirit of innovation which would displace the works not only of Cullen, but of Huxham, and Pringle, and Morgagni, and Sydenham, as valueless encumbrances on the shelves of a medical library.

According to those who cherish this exclusive spirit, no treatise of medicine before the time of Bichat deserves to be consulted. Symptomatology, in short, goes for nothing in their creed. It makes but a sorry and inconsiderable figure in their writings, which are altogether devoted to pathological descriptions. Now, this we humbly conceive to be a capital error, calculated to retard the progress of medicine, so far as its resources are to be made available not merely for ascertaining the precise tissue in which any individual disease has its seat, but for establishing rational and efficient methods of treatment. This last object is, or should be, after all, the main scope and design of our professional labors, whether in the closet or at the bedside, and yet we fear that this has been too frequently lost sight of in the over anxiety to pursue pathological investigations. Upon what other supposition can we explain the inefficient and vascillating practice pursued by those whose only aim appears to be to fill huge volumes with cases of disease illustrated by dissections? The symptoms are lightly passed over, with the exception of one or two, which either are, or are assumed to be, always present and sufficient to account for all the others, and for the result as developed in post mortem examination. The materia medica is for them a dead letter—a blank. A few leeches and sundry gallons of gum water constitute all the expedients of their art. Inflammation is the caduceus that, with its magic touch, enchants every thing with which it comes in contact.

What then? it may be asked: Are we opposed to pathological research, and do we underrate the labors of Bichat and his eminent successors? Far from it. None are more ready to acknowledge the almost magic influence which his splendid and successful researches, conducted in the true spirit of the inductive philosophy, and shedding a flood of light upon the most obscure subjects connected with a knowledge of the animal economy, have exercised over the progress of our science, impelling it forward in the march of improvement, and imparting to it a character of almost mathematical precision, which promises the most brilliant and lasting results. But while we accede to modern pathology all that its most ardent votaries can claim in its behalf, we must raise our solemn protest against the wanton extinction of those beacon lights which successfully guided our predecessors in their arduous attempts to combat disease. All that we demand is, that the lights of ancient symptomatology and modern pathology be blended; their united lustre will pour the beams of noonday upon the hitherto darksome paths of medicine, which must ever remain imperfectly illumined, if deprived of either source of light. While, therefore, we would wish that the works of Bichat were made a manual and text book in the hands of every student and practitioner of medicine, and would impress upon their minds the absolute necessity enjoined upon them by considerations of duty and their hopes of success, of availing themselves of every opportunity to instruct themselves in morbid anatomy, and of uniting in one concerted and zealous effort to render these opportunities as frequent as possible, by dispelling the mists of prejudice in which the public mind in most countries is still involved upon the propriety of a general dissection of bodies after death, we must at the same time remind them that, for accurate descriptions of disease, and for masterly lessons in clinical medicine, they must still revert to the time honored depositories of medical learning and facts, of which no changes of theory, however dazzling, and no additional discoveries, however brilliant or wonderful, can ever lessen the value or impair the utility.

From the digression into which his unqualified and unwarranted denunciation of Cullen's First Lines betrayed us, we now return to Dr. Mackintosh, and shall consider his chapters seriatim. The first volume only of the Elements has appeared. It is divided into four parts; in the first part the pathological history of inflammation and fevers is considered; in the second, the diseases of the digestive organs are treated of; in the third, the diseases of the organs connected with respiration; and in the fourth part, the diseases of the circulating system. In the present article we shall confine ourselves to a consideration of the first and a portion of the second part, reserving the remainder for our next number.

Inflammation. Reversing the order pursued by his predecessors, Dr. Mackintosh discusses the subject of inflammation before that of fevers, and, perhaps, considering its greater simplicity, this arrangement may be the best. A spirited review is taken of the different doctrines which have obtained on inflammation from the time of Boerhaave, and the author then proceeds to unfold his own views.

Two opinions divide the profession at the present day on this subject. According to the one, inflammation consists in an *increased* action of the capillaries; according to the other, in a *diminished* action of the same vessels. Dr. Thomson, who entertains the first notion, applied salt to the foot of a frog: the first effect was to increase the velocity of the blood, to distend the vessels, and deepen their red colors. After the cause had been applied for some time, the red globules became less distinct than before the application of the salt, and, as he supposed, from the too great rapidity of their motion. Dr. Wilson Philip, who made the same experiment, came to the opposite conclusion, and decided that where the inflammation was greatest, the vessels were most distended, and the motion of the blood *slowest.* Dr. Hastings repeated this experiment and coincided in the views of Dr. Philip. Dr. Mackintosh considers that three points have been specially overlooked by writers on this subject: 1st, the influence of the nervous system; 2d, the changes in the quality of the blood itself; and 3d, the diseased state of the vessels. That the nerves have an influence in the production of inflammation, has never been denied. It has long been supposed that the buffy state of the blood is entirely depending upon the nerves.* In proof of the nervous influence as exercised in this affection, Dr. Mackintosh relates the curious fact that horses, which are very liable to inflammation of the foot, have been cured, after a lameness of months, by simply dividing the nerves immediately above the fetlock joint. The morbid change of the fluids and the blood is more particularly established by the circumstance of the red particles ceasing to be observed, and the blood's "assuming a flocculent appearance, becoming darker and darker, and the vessels becoming in some degree obstructed." Looks not this like the doctrine of Boerhaave, modified, it is true, but essentially the same? Simple increase of the action of the vessels does not constitute inflammation. If it did, blushing and the redness produced by friction would be inflammation. But if in the latter case the friction be sufficiently long continued, or, in other words, the blood be detained long enough in the same part, inflammation ensues. Any obstruction continued a sufficient length of time produces the same effect as is instanced in strangulated hernia.

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* See Gregory's Practice, 3d London edition, p. 105.

> "The essence of inflammation partly consists in more blood entering by the arteries than can escape by the veins, or than can be made use of, as when the part is in a state of health, the consequence is a congestion from partial obstruction; and it is, I imagine, this degree of obstruction which produces the throbbing. The vessels of the inflamed part are greatly dilated, and the number of them containing red blood is greatly increased. It is also probable, that diseased action in the inner membrane of both arteries and veins produces inflammation. Two well known facts may also be mentioned. Diminished action of the vessels may be produced and maintained for some considerable time, and the effect will be, not inflammation of the part itself, but of another part of the body at a distance. Again, if inflammation has been excited in any organ, an increased flow of blood takes place towards it, and all other parts must consequently suffer from a diminished supply of good arterial blood; this produces embarrassed action in the functions of all organs—hence the general constitutional disturbance. In the practice of physic, this last circumstance is too generally overlooked. Physicians are too apt to expect, that the constitutional symptoms will cease the moment the original disease is subdued; this not being the case, they often push their remedies far beyond the proper point, and make matters worse. This is, perhaps, more peculiarly a British error, and we are justly condemned for it by our continental brethren. Other physicians, again, do very great mischief by stimulating and throwing in bark and other tonics at a too early period after the convalescence has commenced; they will be found in the morning ordering a large bleeding, and in the evening a stimulant. Cases, no doubt, will occur in which this change is really necessary; all that is wished to be impressed upon the reader in this part of the work, is, that such practice is too often had recourse to, more from an unfounded *dread* of the occurrence of "typhoid symptoms," than from real necessity; and that sufficient confidence is not placed in the powers of the constitution to repair injuries which have been sustained. They are, indeed, too often found tampering with the human frame, as if it resembled a piece of machinery of their own construction."

In considering the causes of inflammation, Dr. Mackintosh takes occasion to correct an error into which Thomson has fallen when alluding to the effects of cold. This author asserts that cold acts more directly on the parts with which it comes in contact, and he cites the inhalation of cold air as producing catarrhal inflammation of the mucous membrane of the air passages. This is justly considered by our author a most unhappy illustration, as, if it were just in its application, an individual in cold regions ought never to be free from bronchitis. The contrary, however, is the fact. The sailors who accompanied Capt. Parry in his voyages of discovery towards the north pole, enjoyed remarkably good health. To this fact we may add those furnished in the interesting communications of Drs. Charles Drake and Xavier Tessier, which appeared in a former volume of this journal, illustrating the beneficial tendency of the inspiration of very cold air into the lungs in diseases of these organs.* The far greater frequency of catarrh as a consequence upon damp extremities than upon any other cause should not be forgotten.

In describing the phenomena of internal inflammation, Dr. Mackintosh makes some striking observations on the difficulties a physician has to encounter in forming a diagnosis—difficulties which we have seen too often overlooked by those dashing practitioners, who are so anxious to evince the rapidity with which they draw conclusions from the first survey of a patient. Thus there may be dyspnœa and fever present, and yet the lungs be free from disease, while the pericardium is affected. There may be violent vomiting, with tenderness in the epigastrium, and even fever; and yet the disease, instead of being in the stomach, may have its seat in the brain. There may be severe local and general disturbance, and the cause be a neuralgic affection, or the impeded function of some viscus. There may be, in short, pain, heat, and fever, and no inflammatory action present. Yet how often has the sweeping rule been urgently impressed on the mind of the unwary student, "while there is pain—bleed!" The buffy blood, too, may exist without actual inflammation, and when inflammation exists, it is not always present. "Mental agitation and fatigue produce the buffy coat," p. 15. Dr. M. places, nevertheless, great reliance on its appearance, when taken in conjunction with other circumstances, particularly when the surface of the blood drawn is also cupped, and when the quantity of the serum is large.

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* See Nos. 26 and 28 of this Journal, p. 199 and 522.

We think Dr. Mackintosh inclined to treat an able contemporary with undue severity and injustice in the following sentence:

> "I feel convinced," says Dr. M., "that no pathological physician will join a modern writer on the practice of physic in the following dogmas: 'Delirium marks inflammation of the brain; impatience of light, ophthalmia; hoarseness, inflammation of the larynx; and dyspnœa, that of the lungs.' The practice of physic would, indeed, be simple and certain, were these things true. But this is not the place to enter into a refutation of these arbitrary statements."

What conclusion can the reader of this passage draw, but that Dr. Gregory (for it is that able writer who is here alluded to) intended to convey the idea that these symptoms were all in all sufficient to denote the presence of the respective diseases which they accompanied? Yet no conclusion can be more unfair or at variance with the truth. Under the head of the different signs of the presence of inflammation, Dr. Gregory very correctly enumerates as *one* of these a disturbance of function in the part inflamed; and then cites the above instances in point. He does not, therefore, mean to say that it alone denotes inflammation, no more than he intended to convey the idea that pain, or fever, or any other symptom taken by itself, is evidence of the presence of local inflammation. Did this assertion need any other proof than the whole spirit of Dr. Gregory's work, as well as the immediate context from which the above extract is so unfairly detached, it is satisfactorily established by the fact of the author's treating of dyspnœa, &c. in a separate section, as pure nervous affections. We sincerely regret to witness such perverse conduct towards a rival author—as it is calculated to lessen our confidence, either in the candor of the writer's statement, or in the soundness of his judgment.

Fevers.—We are happy to preceive that Dr. Mackintosh does not bow at the footstool of the arbitrary rulers, who, in vain, attempt to govern the medical world, on this most important of all medical subjects. It is a gratifying feature of the present epoch in medicine, that the great majority of the profession think for themselves, and are disposed to reject all exclusive doctrines as inapplicable to the theory and practice of medicine. Defeated partizans may impute this indifference to their favorite theories, on the part of physicians, to a bigoted attachment to ancient prejudices, to ignorance and indolence. We fully concur with the eloquent author of the annual address published in our last number, in ascribing it to "the more general diffusion of knowledge—to a candid, but decisive application of the experience of the past, and to an increasing desire to study diseases directly with reference to their appropriate, as well as ever varying symptoms, and the changes that are thus produced."

Dr. Mackintosh attempts very ingeniously to account for the origin of the peculiar and diverse hypotheses assumed by Clutterbuck and Broussais, to explain the nature of fever. The former, he thinks, has seated this affection in the brain exclusively, because he practises in the largest commercial city in the world, among a people whose minds are more actively employed than their bodies, who are exposed to intense anxiety occasioned by their pursuits in commerce, their extensive and hazardous speculations and frequent reverses, and who indulge in heavy meals and sedentary habits. The latter, on the other hand, has seated his hobby in the bowels, because the stewed meats, the salads, and oils, and sweets, consumed by the higher ranks in France, and the hard beer and acid wines, and unwholesome food, used by the lower classes, tend to invite irritation to that nether quarter.

The views of Dr. M. are thus summed up:

1st. Fevers frequently depend on inflammation of an acute, but more frequently of a subacute nature of every organ and tissue of the body. If the inflammation be acute, the febrile symptoms will be correspondingly high; but if subacute, they will assume a slighter form.

2d. Fevers very often depend on mere functional derangement of some organ, having as yet no connexion with inflammation.

3d. Fevers sometimes depend on the mere loss of balance in the circulation, producing congestion.

If the author had added a loss of balance in the nervous excitement to this third clause, he would have been more correct in point of fact, and, also, conveyed his own ideas, as expressed in a subsequent paragraph, more fully, in which he adopts the well known definition of Dr. Fordyce, so often quoted and borrowed, "a fever is a disease that affects the whole system," &c.

Dr. Mackintosh condemns all previous classifications of fever, and adopts the following:

1st. Intermittent fever.

2d. Remittent or yellow fever; infantile remittent.

3d. Continued.

This class is divided into—

- 1st. Fever from simple functional derangement.
- 2d. Ditto from inflammation.
- 3d. Ditto from congestion.
- 4th. A mixed form of fever between these last three, but in which congestion predominates at last, commonly denominated typhus and synochus.

4th. Hectic fever.

5th. Fevers attended with eruptions.

This class is subdivided into—

- 1st. Scarlet fever.
- 2d. Measles.
- 3d. Smallpox.
- 4th. Ditto modified.
- 5th. Chickenpox.
- 6th. Miliary fever.
- 7th. Roseola.
- 8th. Urticaria.

6th. The plague.

The description of the phenomena of fever is spirited and accurate; but we must pass it over to glance at the chapter on the causes of fever.

The following paragraph deserves record for the correctness of its views.

> "No one who has attended to this subject, can deny the influence of contagion, and marsh miasm, on the human body; but I conceive that too much has been attributed to them, and too little to the state of the constitution previous to seizure, and also by far too little to the common causes of fever. A weighty argument in favor of contagion, is sometimes drawn from the well known fact of fevers spreading not only from one to another in a family, but also in the same tenement; but the circumstances under which they are placed should not be forgotten, as being likely of themselves to give rise to disease. The anxieties, the hopes and fears, which alternately affect individuals attending others whom they love, the exposure to cold and fatigue, the night watching and want of rest, the irregularity in taking nourishment, and the neglected state of the bowels, all tending to produce loss of balance in the circulation, will go far to account for a number of individuals in the same family being affected, the one after the other, with a fever. Neither should it be forgotten that all these individuals residing in the same locality, and living in the same manner, may have been exposed at the same period with the person first affected, to the miasm or epidemic influence, or some of the common causes which will produce fever. Why one individual should be sooner attacked than another, and have the disease perhaps more severely, it is difficult to determine.

Intermittent fever is never contagious, says Dr. Mackintosh, but yellow fever and typhus are so in a very high degree *under particular circumstances.* What these are, the author does not state; he thinks contagion, as a cause of fever, has been much overrated in its influence. Under the head of yellow fever, we expected to find more proofs, or facts, in support of its contagiousness, but not a word is said excepting a general repetition of the fact; guarded, however, by the assertion, that abundant other causes may produce the disease. An author who treats a subject so important to the interests of his professional brethren abroad, with such passing indifference, should not detain us with an attempt at refutation, even were it otherwise necessary.

Intermittent Fevers.—The author takes especial pains to refute the assertion of Dr. Cullen, that this class of fevers arise only from marsh miasmata. He adduces instances of ague from worms, repelled eruptions, &c. These we suspect were rather ephemeræ, and ceased with the immediate cause producing them. The intermittent fever of Cullen and most authors, is a disease following its own laws, and frequently resisting all methods of cure long after the cause has been withdrawn. This is a circumstance overlooked by the exclusive pathologists.

In describing the last stage of intermittent fever, Dr. M. observes " now and then there are marked remissions followed by exacerbations, and then it is called intermittent; when, in addition to the two last mentioned circumstances, there is a considerable irritability of stomach, bilious vomiting, and a tinge of the skin and eyes, then the case is termed a bilious remittent, or yellow fever." Surely our readers will say, if this be the case, then we have yellow fever daily at our doors—in our remote villages as well as on the seaboard; and easily enough do we overcome the monster that has so long appalled us through mistaken fear.

Appearances found on Dissection. Dr. M. has found, in the bodies of those who died in the cold stage, the vessels of the brain gorged with venous blood. He has also seen the carotids, after passing into the skull, greatly distended with black blood. The lungs are so much congested that they sink in water, and are of a dark color. Dr. M. has not observed any structural disease in these organs. The heart and the veins near it were gorged with blood, and there is an effusion of blood or bloody serum sometimes in the cavity of the pleura. In the abdomen there are dark colored patches on the peritoneum, occupying a considerable portion of the intestines. All the tissues are highly injected. The liver is gorged with blood and discolored, but like the lungs not affected in structure, as is proved by its resuming its natural appearance on being well washed and cleared of blood. The spleen was found in the same condition, but did not resume its natural appearance on undergoing the same treatment. The stomach and intestines contained, in one instance, a dark sanguineous looking matter like the black vomit—probably a secretion from the mucous vessels. We quote the following abstract from the work of M. Bailly in the words of our author:

> "In the head he found traces of disease, more or less extensive, in thirty-three cases; in twenty-two of these there was thickening, and other marks of inflammation, in the arachnoid coat; and in eleven, inflammation of the substance of the brain. In twenty cases there was gastro-enteritis. In four cases gastritis by itself, and also four of enteritis, uncomplicated with gastritis. In eleven the spleen was softened; in some instances enlarged; one weighed from two to three pounds, and another from eight to ten pounds. In two cases the spleen was large and hardened. In three cases the spleen was ruptured, and in one it was engorged with blood. In two cases the liver was softened; in four engorged with blood; and in one case inflamed. In one case the gall bladder was inflamed. In two cases there was pericarditis. In three, peritonitis. In one, pneumonitis. In one case there was inflammation and enlargement of the parotid."

Pathology of Intermittents. As a favorable specimen of our author's manner, and a happy and forcible illustration of the state of the system during the cold stage of fever, we shall quote his description of it at large.

> "*Cold Stage.* For aught any one knows, the first link in the chain of morbid action may be in the nervous system; there is decided evidence of its being involved from the beginning to the termination of the disease. But as there is nothing to guide us in the investigation, I shall not enter into it, having resolved to avoid fine spun ultimate causes, which I confess I could never understand. But the first thing which we perceive, is diminished circulation of blood in the extremities, then a sense of coldness, and with it a feeling which is ascribed to weakness. These are evidences of an irregular determination of blood, by whatever cause produced; and in proportion as internal organs become congested,* their functions

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* This term simply implies, that the balance between the arterial and venous system is lost for the time, the latter being overloaded or congested, and not that the circulation in any organ, or set of organs, is entirely obstructed, which nevertheless does actually happen in those extreme cases in which reaction does not take place, and the individuals die in the cold stage. I may add, it is a term not of modern invention.

are impeded. The lungs show their gorged state, by the short, difficult, and anxious breathing; the impossibility of inflating them beyond the least degree; and by the violent, dry cough which occasionally takes place. The livid appearance of the cheeks, lips, and mucous membrane of the mouth, is an additional proof of the embarrassed state of the lungs, showing that the blood is not properly decarbonized. The disordered functions of the brain in this stage, depend, I imagine, principally upon this state of the lungs, and also upon the overloaded state of the right side of the heart, preventing the free circulation from the head. The disordered functions of the brain may also certainly be produced by a change in the balance of the circulation of the vessels of the head, independent of the state of the lungs and heart. The universal feeling of prostration is the consequence of these morbid conditions. The tremors may probably be attributed to congestion of the spinal marrow. The sense of cold is owing partly to the state of the nervous system, and partly to the state of the lungs. The pain in the head and loins, and oppression at the præcordia, may be fairly attributed to the same causes. The muscular prostration, and feeling of sinking, are not owing to actual debility, but to obstructed action, in consequence of the abovementioned condition of the organs. The proof of all which circumstances is to be found in the fact, now well known, that abstracting blood, in the cold stage, will immediately remove not only the difficulty of breathing, the pain in the head and loins, the disordered functions of the brain, (when these exist,) the oppression at the præcordia, &c., but will also stop the rigors, restore the strength of the pulse, increase the heat of the whole body, and cause the sensation of cold to vanish."

In the *treatment* of intermittents, Dr. Mackintosh is of opinion that "bleeding, in the cold stage, conjoined with the subsequent use of the sulphate of quinine and laxatives," is as certain a cure as any remedy for any known disease. Dr. M., however, first details the ordinary methods with which, of course, he finds considerable fault. His condemnation of stimulants indiscriminately used is just. He informs us that Dr. Gregory used to mention in his lectures two cases of violent epistaxis reducing the patients very low, which were induced by cayenne pepper and brandy. In the application of external heat, warm fomentations to the epigastrium are preferred to the general bath. The detraction of blood in the cold stage will generally cut it short, and frequently prevent the return of the disease altogether. The quantity of blood necessary to be drawn is not stated. From one ounce and a half to twenty-four ounces may be required. The operation is sometimes attended with difficulty on account of the tremulous motions of the patient; this vanishes as the patient is relieved. Dr. M. was once successful, by bleeding in a cold stage which had lasted twenty-six hours. The relief is evinced by the ease with which the patient breathes, the subsidence of the tremors, and an abatement of the sensation of cold. It probably acts by relieving the heart, large blood vessels, and the brain and lungs from the accumulation of blood which oppresses them. For the safety of the practice, Dr. M. refers to Dr. Haviland, professor of the theory and practice of physic in the University of Cambridge; Dr. Malden, of Worcester; Dr. Buller, of Cork; Dr. Allison, of Edinburgh, &c.; and also to the work of M. Bailly.

In the hot stage, bleeding may be necessary to counteract attendant inflammation; but it has not so good an effect as in the cold stage. All febrifuges and diaphoretics are condemned!

During the interval it is necessary to ascertain whether there is any local disease present. In pursuing this investigation medical men are too apt to think that it is only the liver and the spleen which may be affected, whereas the brain and lungs are equally apt to suffer. Bronchitis and affections of the heart may also be present. In the course of his remarks on the use of bark and quinine, the author comments in just terms of reproach on the quackery of those physicians *who never fail to cure a case of fever.*

Dr. Mackintosh gives the sulphate of quinine in three doses of five grains each, with half an hour of interval, immediately before the expected paroxysm; or three grains every half hour, beginning about three hours before the paroxysm.

Laxatives should never be forgotten, and patients should be watched lest they give erroneous accounts of the condition of their bowels. A neglect of their function is a serious impediment to the cure.

Remittent or Yellow Fever.—Our author thus commences this section: "The disease which falls now to be considered, is a fever which occasionally abates in violence, but in which the patient never feels quite well till another attack comes on." He goes on to inform his readers that it is a disease of remarkable remission, and when the skin is yellow, it is yellow fever! His description of the phenomena belongs to yellow fever strictly so called, and is as distinct as we can well imagine from the ordinary remittent fever, of which he takes scarcely any cognizance. He evidently considers yellow fever the highest grade of remittents. Our reasons for differing in this opinion, we have stated at large in our review of an able work on fever, published some years since by Dr. Huestis, of Alabama. We shall, in all probability, have occasion to return to this subject in a short time.

Infantile Remittent.—From the section on this interesting subject, we shall only quote the appearances on dissection.

"The most constant diseased appearances are found in the abdomen. Sometimes peritoneal inflammation seems to have been the immediate cause of death, and I have had many opportunities of ascertaining that inflammation of this tissue has been excited by the extension of ulceration of the mucous membrane, through the muscular and mucous tissues. The mesenteric glands are very generally found enlarged, sometimes enormously so, and seem to consist of a cheesy looking matter, which is usually described as depending on scrofulous action, but I believe from erroneous pathological notions, which shall be explained hereafter. On cutting open the stomach and bowels, the mucous membrane will be found in various conditions, thickened, softened, ulcerated, occasionally very vascular. The ulcerations in the ileum and colon strictly resemble those which I have afterwards to describe in the bowel complaints of children, except that the whole mucous surface of the colon is occasionally involved in one sheet of ulceration, with a rough and ragged surface and hypertrophy of all the coats, as is observed in many cases of phthisis pulmonalis. When there is no ulceration, we sometimes see mere vascularity, with or without softening of the mucous membrane; the quantity of thick mucus adhering firmly to the surface is very great; and it is curious, that after being carefully removed by washing and wiping, I have seen fresh exudations take place even during maceration, not only in water, but in spirits; and what has sometimes surprized me very much, after having laid by preparations, when I thought they were quite free, I have found them many months afterwards again thickly coated over with mucus. Large abrasions are also sometimes found in the mucous membrane of the stomach, at the splenic extremity, which have penetrated through all the tissues at one point; in other places they appeared to be converted into a gelatinous mass. From careful examination, it would seem that this kind of disorganization is the effect of previous inflammation. This appearance has excited considerable interest of late years, and has been noticed on the continent by Cruveilheir and others, and in this country, many years ago, by Underwood, who, nevertheless, was no great pathologist; but the profession stands greatly indebted to Dr. John Gairdner, of Edinburgh, who has collected a great number of interesting cases, some of which occurred in his own practice, which will be found in the first and second volumes of the Medico-Chirurgical Transactions of Edinburgh.

"It has been stated in the description of the disease, that head and chest symptoms sometimes become lighted up, but on watching the progress of the affection, these are observed not to form essential parts of it; nevertheless, the appearances sometimes found in these cavities, deserve to be mentioned.

"In the head there is generally effusion in the ventricles, and also between the arachnoid and pia mater, with great vascularity in the latter membrane.

"In the thorax, the most common appearance is in the bronchial membrane, which is vascular, and the tubes are more or less filled with mucus, which is to be described more particularly when treating of bronchitis. The substance of the lungs also shows various degrees of inflammation, and occasionally traces of pleuritis are to be seen."

Continued Fever.—We have seen that the author subdivides this class into four varieties. The first is that from functional derangement. This is not a formidable affection and is only difficult to treat because it is impossible to fix upon any one organ which can be said to be primarily affected. Will not this difficulty vanish, if we consider the disease, as it undoubtedly is, a simple fever of the whole system, and direct our remedies with a view to remove the general oppression by evacuations proportioned to the exigencies of each case, and by remedies calculated to renew the checked secretions from the principal viscera? Dr. Mackintosh prefers bleeding, in the treatment of this disease—and he has been induced to make this preference "by observing the manner in which this kind of fever, in particular, terminates; first, it terminates upon the appearance of an eruption, which eruption is generally urticaria, sometimes erysipelas, which acts beneficially by counter-irritation; secondly, he has seen it terminate by epistaxis; thirdly, by diarrhœa; fourthly, by profuse night sweats; and fifthly, by abscess." He is, therefore, induced to "take the law into his own hand," and deplete before the strength is reduced. Should there be any doubt about bleeding, leeches may be substituted. This whole argument and its deductions appear to us fallacious in the extreme. We will admit that as nature does relieve herself in one of the five ways pointed out, it is right to imitate her process whenever we wish to cut short the disease. But if we imitate her process in one of the ways, why not in all the others? Why, in every case, have recourse to the same method when we see that she varies in her efforts to attain the same end? Or why use all when she generally restricts herself to one alone? It will probably be found that those cases which are relieved by epistaxis have been marked in their course by plethora, those which are terminated by diarrhœa have had prominent symptoms of abdominal irritation or accumulations, and so on. Let us, then, select that method which the symptoms present indicate, and not have recurrence for ever to the lancet, which may needlessly waste the strength of the patient, or to leeches, which are so often prescribed *secundum artem* to the serious exhaustion of his purse. That our author does not place great reliance on other evacuants than the lancet we can well comprehend, when he recommends two grains of calomel and six of rhubarb as a purgative for an adult in fever! It is true he orders it to be frequently repeated till it has produced the desired effect. That it does not cut short the disease cannot be matter of surprize to those who frequently find it necessary to administer scruple and even drachm doses of calomel to abate the violence of fever.

Fever from Inflammation. While the author rejects the absurd doctrine that fever always depends upon inflammation of one particular viscus, and maintains only that inflammation may give rise to fever, he does not, as it seems to us, dwell sufficiently upon the converse of this last proposition, that the latter may light up the former. He does, indeed, admit it explicitly in his general views of fever, but he does not enlarge upon it with the attention to which we think it entitled. That which he denominates fever from inflammation, is what has been generally recognized under the name of symptomatic fever, and being dependent upon inflammation as its primary cause, requires a vigor in the treatment proportioned to the extent of this cause. It will not yield until the cause has been removed; and, generally, though not always, will subside with its removal. Not so with the fever which is primary, and in which inflammation is a contingent occurrence only, developed in an organ predisposed to disease by weakness, whether natural or acquired. This pursues its own laws, according as it is an intermittent or remittent, or continued fever; the product of common or epidemic causes, or, finally, of contagion, as the exanthemata. To the inflammation which may be lighted up by this fever, attention must, indeed, be paid, and the general principles of treatment applicable to the phlegmasiæ be pursued. But the primary disease must not be lost sight of, and the treatment of accessary symptoms must be modified, so as not to militate with the plan necessary to subdue the general disease, or at the least conduct it to a happy issue. Thus, if an individual, debilitated by depressing causes, as fatigue, grief, &c., be exposed to the action of malaria, and contract an intermittent or remittent fever, and if, during its continuance, some one predisposed organ should take on inflammatory action, he would not bear depletion by the lancet to the extent which a robust healthy man could bear, or he himself, before he was exposed to the malarious influence, could have borne if inflammation had been the primary affection, and the fever been only a consequence. Hence it is, that in these cases local bleeding is preferred to general, and is frequently employed even in cases in which gentle tonics, to support the decaying powers of nature, are admissible, if not indispensable. This distinction appears to us all important, and we regret to see it so much overlooked by modern pathologists.

In discussing the treatment of inflammatory fever, Dr. M. speaks of Sydenham in a strain of panegyric, which, however merited, strikes us with with great surprize, as coming from one who, on all other occasions, underrates the value of all writers who are not pathologists. It is so pointed and so well calculated to confirm the tenor of the observations with which we commenced this article, that we are tempted to extract it.

> "Sydenham, whose book is one of the greatest ornaments which medical literature possesses, recommended, above a hundred and sixty years ago, the same, or nearly the same practice, which stands good in the present day. He was led by his great wisdom and experience into the proper line of treatment, although he had not the advantage which we enjoy, of examining morbid appearances after death to confirm it. He had erroneous notions in consequence of his unacquaintance with morbid anatomy, but he was the first man who pointed out the impropriety of treating all fevers alike, by showing that different organs are affected in different cases. He also pointed out very precisely, that fever requires a different treatment in every stage as it advances. He also made pointed observations against the farrago of medicines which were generally prescribed, and his own plans were exceedingly simple. It was he who first introduced the plan of purging in fevers. His chief hope seems to have depended on the lancet, laxatives, and opiates, the strict antiphlogistic diet, and allowing no solid food. And if he could have proved his opinions by an appeal to dissections, there would not have been, in all probability, so many changes in practice since his day."

Is it not singular that inflammation, on which modern pathology has shed more light than on any other disease, was properly treated more than a century before its present improved state. And yet symptomatology is not worthy of the attention of the medical student!

Typhus and synochus are considered by our author to be mixed forms of fever; the former of the functional fever united with the congestive; the latter of the inflammatory united with the same. In treating of these, he invites the attention of the student, in an an especial manner, to the pathological condition of the lungs, which are not only oppressed by congestion, but still farther embarrassed by an inflammatory affection of the bronchial tubes. This last circumstance has attracted his attention for fifteen years, and he believes that few instances of febrile affection take place without bronchitis being present in some one of its stages, and very often it is the primary affection. He earnestly recommends the use of the stethoscope in fevers, as the heart will frequently be found to beat violently, while the pulse at the wrist can scarcely be felt, and the extremities are even cold. He has seen many patients recover after having been stimulated, on the discovery of this state of the heart, by leeches and blisters.

Emetics are highly recommended in the last stage of some of the cases of mixed fever, in which the bronchial tubes are oppressed by accumulation of muco-purulent matter taking place during sleep.

The author's practice in the Dispensary, during the last severe epidemic in Edinburgh, appears to have been successful. Out of one hundred and forty cases, one only died. This proportion increased afterwards to one in thirty-seven.

Hectic fever is supposed by Dr. Mackintosh to have no necessary connexion with the formation of pus, but to depend most frequently on inflammation of the mucous membranes. This view can scarcely be deemed satisfactory, as it fails to inform us with what peculiarity of inflammation this fever is connected, which ought to have been done, as it is by no means a general attendant on mucous inflammation.

The explanation which Dr. Mackintosh gives us of the pathology of eruptive fevers, strikes us as being equally unfortunate with that of hectic fever. He considers the eruption as a mere symptom of this class of diseases, yet he does not deny that there is something *very peculiar* in them —"peculiar, inasmuch as the eruptions present external characters, differing from each other as well as from other eruptions, and that they occur once only in a lifetime," and he might have added that the majority of them are contagious, and can be transmitted by inoculation. Notwithstanding these peculiarities, which he does not make even an attempt to explain away, he goes on to insist that they are mere inflammations, more or less acute, of the mucous membranes—measles and smallpox of those of the respiratory passages—urticaria and miliary fever of the abdomen, &c. The eruption is a mere symptom, and by no means an universal one; and is to be regarded as a natural blister or counter-irritant produced by powers inherent in the constitution, which enable it to throw off so much of the disease from an internal organ of which the functions are necessary to life. Could we admit this as an explanation, we would still ask why, in all cases of inflammation of the mucous membranes, the same counter-irritation produced by inherent powers is not established. Why shall this take place once only in a lifetime, and that when the inflammation has been communicated by contagion? And farther, why shall the counter-irritant, established by nature, be in one instance measles, in another smallpox! And why in all other instances, except when contagion has thus communicated the disease, shall nature fail to establish the same counter-irritant? That the erruption in the exanthemata relieves not only the external organs, but the whole system, we do not feel disposed to deny; but that it is, therefore, a mere symptom, which may or may not be present, and that the essence of the disease in these affections is simple inflammation of the mucous membranes, appears to us untenable and even absurd. The mucous membranes are probably affected in these diseases simultaneously with the external covering of the body, and there is undoubtedly a balance preserved between them in the quantity of diseased action spent upon each. When this balance is destroyed, the one suffers more than the other, and the great object should be to restore it. This we think has been satisfactorily demonstrated by the researches of the best pathologists of the present day. The affection of the mucous membrane we believe, however, to be equally peculiar with that of the skin, and by no means ordinary inflammation. This last will be frequently developed, both in the membranes immediately affected, and in other parts, as the lungs, the pleura, the liver, the peritoneum. &c. Its occurrence is to be regarded, as in fever, a contingent and accessary, not an essential, symptom of the disease. And this view of the subject, we are farther inclined to believe, will lead to the most rational and efficient methods of treatment, and obviate that blind recourse on all occasions to one and the same means, which an exclusive pathology no less than the most ignorant empiricism universally employs.

Under the head of *Scarlatina*, Dr. Mackintosh divides all eruptive diseases into two grand varieties, the congestive and the inflammatory; the simple variety he omits. He probably does not recognize it in his exclusive pathology, as it is not generally fatal, and has, therefore, not been recognized by the knife. Every practical physician, not misguided by his attachment to theory, will acknowledge the truth of Armstrong's classification, copied as it is from the book of nature, not as she displays herself in the dissecting room alone, but also at the bedside.

His treatment of scarlatina is judicious. He cautions against the stimulating gargles so generally recommended for children. A little warm water answers every purpose. Active treatment at the onset of the disease will obviate secondary fever and its *putrid* train of symptoms.

The indiscriminate employment of bark and wine in the congestive form of measles, when the eruption recedes, is very properly and forcibly condemned. An interesting history of the disease, as it occurred under this shape at Edinburgh in 1816, is given, in which numbers died after this treatment, in whom the lungs and other organs were found inflamed after death. The following extract will illustrate the author's mode of proceeding in these cases:

> "A few years ago, I was suddenly called to see a child in measles, the first day of the eruption; and every appearance had been so favorable up to the moment of the sudden recession of the rash, that the family had not applied for medical advice. When I saw it, the eruption, which had been extensive, and of the usual color, was not now to be seen, but still it was to be felt. The child was under three years of age, and of a good constitution; it had had three or four strong convulsions in the course of rather less than an hour; it was now insensible, and to all appearance comatose; one pupil dilated, while the other was of the natural size; and its hands were clenched. A good sized vein was found in the arm, which was instantly opened, and from eight to ten ounces of blood were abstracted, when its breathing, and every other appearance, became more favorable; the pulse, which was under sixty, rose gradually as the bleeding went on, and the child soon became quite sensible. So far from debility following, I was obliged to apply leeches next day to the head, and the child made a rapid recovery, and was running about in the course of a week."

In *Smallpox* the author recommends the pustules to be opened early, as a certain preventive of marks.

Urticaria. It has occurred to Dr. M. to observe, that individuals who are teazed with this and similar affections during youth, are afterwards most likely to be troubled with the gout. This fact admits of easy explanation. A case is related of a very beautiful young lady, who, being frequently affected with this rash, applied to an eminent physician, who gave her a large bottle of a solution of the acetate of lead, with directions to sponge her body with it whenever it was itchy. She stripped herself on the first occasion and applied the wash extensively. The itching ceased, and the eruption disappeared. She instantly felt sick and oppressed, and fainted. She survived, but has never known a day's health, and now labors under an affection of the uterus and liver.

We now come to the second part, in which the diseases of the digestive organs are considered.

Difficult Dentition is the first subject treated of in this part —and many excellent practical observations are made on it. Scarification of the gum is, in all cases, recommended, and the dread of a hardening of it effectually counteracted. We mention this fact, because this dread has been entertained by very high authority. Soft pillows and warm caps are pointed out as frequent exciting causes of the affections of the head in children. In cases of oppression about the head, if the ordinary remedies do not succeed, leeches should be applied to the feet. In the application of these animals, Dr. M. always selects a situation over a bone upon which pressure may be made to arrest the hemorrhage which is sometimes too long continued.

CHAP. II. *Difficult Deglutition*, from inflammation, ulceration, and enlargement of the tongue, cynanche tonsillaris, copharyngea, and œsophageal inflammation.

Affections of the tongue are correctly believed by Dr. Mackintosh to depend in general upon the state of the chylo-poietic viscera. Those who are subject to gastric derangement will readily remember how often their tongue has felt sore, been slightly ulcerated, and sulcated on its tip and edges.

In cases of aphthæ in children, attended by excoriations about the anus, and disturbance of the intestinal function, leeches to the abdomen, castor oil and opiate injections, say a few drops of laudanum mixed with starch or gruel, and also Dover's powder with an aromatic, are recommended. An abstemious diet is to be prescribed. In cases of debility, wine is preferable to meat. The chloride of soda in a weak solution is serviceable as an internal medicine. Borax and sugar applied to the mouth are condemned.

Cynanche tonsillaris is generally supposed to be occasioned by cold produced by the vicissitudes of the weather, but Dr. M. thinks that derangement of the stomach and bowels has great influence as a cause. We believe the two causes combined are the most frequent sources of the disease. There are several families known to us, in whom the operation of the latter cause seems always necessary to develop the disease. In these we find emetics very efficient in the very commencement of the disease. Our author does not extol them highly. The inhalation of warm vapor is recommended. We are accustomed to place great reliance on this measure, and have been often surprized to see practitioners recommend gargles, and stimulating ones, too, when there are pain, and heat, and difficult deglutition present. In ulceration following this disease, a solution of the nitrate of silver in distilled water, in the proportion of four, six, or even ten grains to the ounce, is the most efficacious application. The ulcerated surface is first carefully to be washed, and then the solution must be applied by means of a brush. It should be carefully and delicately done, else mischief ensues.

Indigestion.—This troublesome and protean affection may arise, first, from simple functional derangement of the stomach, liver, duodenum, spleen, or pancreas; secondly, from indigestible and acrid substances taken into the stomach; thirdly, from structural derangement in the digestive organs; fourthly, from long continued constipation; and lastly, from derangements in other organs.

We find a very useful remark made by the author in his treatment of dyspepsia, in relation to stockings. Worsted stockings are generally recommended to keep the feet warm and dry, but they frequently produce an opposite effect. The reason of this is, that they increase the perspiration, which accumulating, lowers the temperature of the foot. Thin cotton or silk answers better. Leeches are, of course, recommended where there is uneasiness in the epigastrium.

We cannot but concur in the regret expressed by the author, that the name of Abernethy should be associated with the insufferable quackery which prescribes the blue pill on all occasions when the digestive organs suffer. Often have we seen it do harm.

Turpentine is recommended as the best remedy for tympanitis.

In gastrodynia, the strict prohibition of indigestible articles, a vomit, external fomentations, the warm bath, liquorice solution, lactucarium, &c., are recommended. We have found the oxide of bismuth a most efficient remedy when aided by appropriate general treatment.

We pass over, as not presenting any novelty, the chapter on hemorrhages from the stomach and bowels.

In *colic*, the first object undoubtedly should be to procure evacuation from the bowels, but we cannot concur in the propriety of having recourse indiscriminately, and on all occasions, to tobacco injections. Other means will generally answer the purpose, and it is only when they fail that tobacco should be used.

The remarks on painter's colic we think peculiarly happy, probably because they coincide with the results of our own experience in this disease. Thus it has occurred to us repeatedly to observe the fact insisted on by Dr. M., that the pulse is rarely affected, notwithstanding the violence of the disease. It will be quickened by the pain and consequent contortions of the patient, but it is soft and compressible. Dissection after death has generally developed traces of inflammation or ulceration. These we are inclined to regard as superinduced by, and not constituting, the disease. We regard it, and we coincide on this occasion with Dr. M., as seated in the nervous system. Inflammation is always to be dreaded. Hence, bleeding and leeches become occasionally necessary. The remedies which Dr. M. considers next in importance, we look upon as the first, viz. calomel and opium. He recommends five of the first and one or two or the second, to be repeated at short intervals. Croton oil should be used with the calomel and opium, or turpentine both by the mouth and by injections.

The disease will generally last a week.

The inflammatory affections of the abdominal viscera are next considered. These we shall take up in the next number, having already devoted as much space as we could spare in the present, to this very interesting volume. We dismiss it, for the present, with the single remark, that it will amply repay the perusal and careful study of the practitioner of medicine. The author, in his aspirations after superiority, evidently underrates the value of the labors of his competitors, but he is an acute observer, a diligent student, and undoubtedly an industrious and spirited writer.

ART. II. *Elements of Chemistry, including the Recent Discoveries and Doctrines of the Science.* By EDWARD TURNER, M. D., F. R. S. E., &c. Second Edition, enlarged and carefully revised. London, 1828. 8vo. p.p. 831.

LATE in the last year, a second edition of this valuable work issued from the press of the London University. The American reprint of the first edition, although executed in a style altogether inferior, has been favorably received by our chemists, and is gradually pushing its way, as a text book, into our colleges and academies. We are, therefore, induced to offer a few remarks which have been suggested by a perusal of this improved edition.

In our opinion a point of the first importance, in teaching or studying a science like that of chemistry, is a proper arrangement of the subjects which it embraces. Consisting, as it does, of numerous isolated facts, unless they are in some degree linked together, their study is full of labor and embarrassment. The advantages of a good arrangement are, indeed, very generally admitted, and yet it is somewhat surprizing that there should be so much diversity of opinion concerning the principles upon which it should rest.

In this respect we consider Dr. Turner's work objectionable. It is divided into four principal parts. The first part relates to what are called *imponderables*, a very vague term, and for which, as Mr. Brande observes, we might with equal propriety substitute the term *inexpressibles;* the second part relates to Inorganic Chemistry; the third to Organic Chemistry; and the fourth to Analytical Chemistry.

Under the first head the general powers are considered, as heat, light, electricity, &c., with the exception of affinity, which we see no good reason for excluding from what are here termed the imponderables; under the second part, simple and compound non-metallic substances are treated of in an order which we are far from considering judicious. We cannot conceive the advantages of noticing in the outset water and air; nor even of the plan proposed, we believe, by Gay Lussac and Thenard, and followed by our author, of placing chlorine, bromine, and iodine among the electro-positive substances. The classification of the salts, moreover, depends upon the acidifying principles; while to us there appears to be a decided advantage in treating of them under the head of each basis, whether metallic or otherwise.

We have, perhaps, been hypercritical upon this point; but it strikes us that arrangement is too little attended to by the authors of elementary works. From this remark, however, we must except the excellent Manual of Prof. Brande, which owes much of its popularity to the judicious method in which the subjects are noticed.

The general subjects which seem to form a necessary introduction to the study of the various simple and compound bodies, occupy a considerable proportion of this work, and yet some of these are by no means complete.

In the section on electricity, which the author tells us, in the preface to this edition, is almost wholly new, we were surprized to see the repetition of an error with regard to the cause of the repulsion which takes place between two bodies negatively electrified, upon the theory of a single fluid. "The separation of two positive electric bodies," says he, "is easily accounted for by the repulsive power supposed to be exerted among the particles of the electricity accumulated upon them; while substances which are negative, or possess less than their natural quantity of electricity, cannot be influenced by such a power; and, therefore, it is argued, ought not to diverge or separate. This mode of reasoning, however, is entirely hypothetical. There is no proof that the divergence observed in similarly electrified bodies is owing to actual repulsion; and the phenomena may be explained equally well on the principle that the two excited substances are attracted in opposite directions, in consequence of the contiguous strata of air being rendered oppositely electrical by induction. In this way all the phenomena of electrical attraction and repulsion, are referable to the attractive power exerted between bodies in opposite states of electrical excitement." P. 87.

Now, this explanation is far from being satisfactory. The conditions of the original Fraklinian theory were, 1st, that the particles of the electric fluid, so called, repel one another with a certain force; and, 2d, that they attract with the same force the particles of all other matter. But the strict examinations of Alpinus and Cavendish have shown that with these alone we are unable to explain the want of action between two neutral bodies; for, according to these, there would be in such bodies two attractions to one repulsion. In order, therefore, to render this hypothesis conformable to fact, it was found necessary to annex to it another condition, namely: that the particles of simple matter, that is of matter uncombined with the electric fluid, exert a repulsive action on one another. When two negatively electrified bodies repel one another, therefore, it can only be considered, upon the theory of one fluid, as the effect of the repulsion exerted between the particles of matter.

The sections on affinity and the laws of combination are extensive, and furnish masterly views of these important and interesting subjects. Indeed we have nowhere seen them equalled, much less excelled. We remarked, however, that the solution of salts in water, and the mixture of alcohol and water, were ranked with the combustion of phosphorus in oxygen gas and the neutralization of a pure acid by an alkali, as examples of simple combination or affinity. We have always been unwilling to admit the two former as instances of chemical affinity, which, in our opinion, should be restricted to the union of bodies in definite proportions.

The subject of combustion, which is one of considerable interest to the chemist, is not treated of in a very happy manner, nor does the author furnish the student with a sufficient number of facts for determining its nature. His definition of the term we consider quite objectionable.

> "The only phenomena of combustion noticed by an ordinary observer, are the destruction of the burning body, and the development of light and heat; but it has been demonstrated, that in addition to these circumstances, oxygen gas invariably disappears, and a new compound consisting of oxygen and the combustible is generated. The term *combustion*, therefore, in its common signification, implies the rapid union of oxygen gas and combustible matter, accompanied with light and heat." P. 184.

Now, these assertions are entirely gratuitous; and, indeed, are denied by the author himself in subsequent paragraphs. The admirable researches of Davy upon this subject, have proved that combustion is not necessarily dependent on the agency of oxygen; and that, in very many instances, oxygen gas, instead of uniting with the combustible body, is evolved by it during combustion.

In the succeeding sections, the simple non-metallic and metallic substances, as also the primary compounds of these, are described with great perspicuity, and the explanations of the various processes are in general very clearly stated. Indeed, this forms one of the most valuable features of the book.

Among the additions to the present edition, is an article on crystallization, which precedes the particular descriptions of the salts. This contains a summary exposition of crystallography, though we somewhat doubt whether the advantage of the student has been consulted in the adoption of the primary crystalline forms of Brooke, instead of those of Hauy. It contains, also, an account of the important discovery of professor Mitcherlich of Berlin, relative to the connection between the crystalline form and composition of bodies, and which has opened a field of considerable interest to the chemist.

To the sections under Organic Chemistry, no material additions appear to have been made. As they are, however, they present, perhaps, the best epitome extant of that difficult branch of chemistry.

On the whole, though not entirely free from faults, we know of no book which contains, within the same compass, a better account of the various subjects embraced by modern chemistry, than that upon which we have ventured to make these remarks. L. C. B.

ART. III. *Hints to young Medical Officers of the Army on the Examination of Recruits respecting the feigned Disabilities of the Soldiers, with Official Documents and the Regulations for the Inspection of Conscripts for the French and Prussian Armies.* By HENRY MARSHALL, Surgeon to the Forces. 8vo. London, 1828.

MR. MARSHALL, in the publication of this work, has rendered a most acceptable service to the military surgeon. Nor are his merits confined to this alone. It is impossible to study the simulation of diseases without increasing our knowledge of their symptoms and their general history.

A treatise like the present will be best reviewed by giving a succinct account of its contents, and to this we now proceed.

The volume opens with a publication of the orders that have issued for the last twelve years from the war office and its various departments, concerning the inspection of recruits. It would appear that some time since, so many improper persons were received by surgeons, that a serious pecuniary loss was incurred by the government. This led to severe animadversion, and at last, in May, 1817, to the publication of the following circular, addressed to officers commanding regiments:

> "Sir—It having been found that in many cases recruits for the regular army, who have been passed by military medical officers, have, when brought for final inspection to the head quarters of the recruiting district, been rejected by the district surgeon as unfit for his majesty's service on account of disabilities, the existence of which it was the duty of the medical officer who first examined the recruit to have ascertained, I am to apprize you, that his royal highness, the prince regent, has been pleased, in the name and on behalf of his majesty, to direct that, in all such cases, *the expense which may have been incurred on account of the recruits, shall be charged against the medical officer by whom they were passed in the first instance.*"

Sir James M'Gregor, the head of the medical department of the army, in August, 1821, drew up the following rules to be observed by medical officers in their examination of recruits:

1st. No recruit to be deemed fit for service laboring under any acute or chronic disease, for which medical treatment is required at the time of examination.

2d. Laboring under old cutaneous affections of the head or body, whatever their specific character may be.

3d. Defects of eyesight, or morbid affections of the eyelids, including specks on the cornea, in whatever situation, as showing former disease; immobility or irregularity of iris, morbid adhesions thereof, opacities of the lens; fistula lachrymalis.

4th. Deafness, or purulent discharge from the ear. Stammering, or defect of speech which may render him unable to do the duty of a sentinel.

5th. Deficiency of many teeth, and particularly if accompanied with an unsound state of the remainder.

6th. Narrow, flat chest; protruded or depressed sternum; badly united fracture of the acromion or clavicle, or any other bones; general appearance of pulmonic disease, particularly if accompanied with a strumous habit; marks of repeated cupping or blistering.

7th. Visceral disease of the abdomen, particularly if accompanied with enlargement of any particular viscus; marasmus, hernia, or preternatural enlargement of the ring.

8th. Varicose state of testicles or chord; deficiency or enlargement of the testicles; fistula in perineo, or in ano; extensive hemorrhoids.

9th. Morbid enlargements of bones or joints; malformation, or loss of toes or fingers; flat feet; nodes, contraction, or stiffness of joints.

10th. Varicose veins of legs, old cicatrices adherent to the bone, or which may be likely to break out afresh on long continued exertion.

11th. Marks of punishment.

12th. Glandular swellings of the groin or neck, or general appearance of defect of health.

Whenever a recruit does not bear the mark of having had the smallpox or cowpox, it is the duty of the examining surgeon to vaccinate him at the first opportunity.*

To these, which were subsequently enlarged and explained, Mr. Marshall has added the "Regulations for the Inspection of Conscripts in the French and Prussian Armies." They do not materially differ from each other, and as the former has been several times republished in medical journals and other works, it is hardly necessary to state them in detail at this time.

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* We were pleased to find, in a note to one of the general orders, a censure on an inspecting surgeon for permitting his colonel to interfere with him so far as to retain a recruit whom the surgeon wished to reject. The adjutant general observes that "the commander in chief could not refrain from remarking the extreme impropriety of the surgeon permitting himself to be influenced in a point of duty by the advice of a person *who could not be considered competent to give an opinion on a professional case.*" After this, our readers will readily suppose that Mr. Marshall would express his astonishment at the law in this state, which permits even the *captain of a company* to sit in judgment on the opinions of regimental surgeons.

We come next to the "Hints on the Examination of Recruits." The leading qualities (according to Mr. Marshall) required in recruits may be comprehended under four heads, viz. height; health; a certain period of life; activity, or the full power of using the several members of the body.

With respect to height and period of life, they belong to the province of military officers, although even on these points, as we shall presently see, useful advice may be received from the surgeon; but the qualities of health and activity are left to the determination of the medical branch of the service.

The infirmities or defects that disqualify recruits for military duty, are divided by Mr. Marshall into three classes:

1st. Obvious defects, (chiefly external.)
2d. Defects not obvious, (chiefly internal.)
3d. Feigned defects.

As to the first of these, they are often simulated by recruits, who receive their instructions from old soldiers. Even as to height, successful attempts at fraud have been made. Thus, some have increased their height and escaped detection by gluing pieces of buff to the soles of their feet. On the other hand, a curious case is related of a recruit, who was received by one colonel into the dragoons at Dublin, as measuring five feet three inches. On arriving at the head quarters of the regiment he was again measured, and found to be only five feet one inch in height. The case was now referred to the adjutant general, and, by order of the commander in chief, another measurement was made in the presence of a general officer, who found it to be the same as the last. The man was now ordered to be discharged, and the levy money was ordered to be paid by the colonel who enlisted him, "owing to whose neglect, a recruit so totally unfit was received into the service." The colonel, however, persisted in asserting, that he had never approved of a recruit below the regulated height, and the soldier was in consequence sent to Dublin to be remeasured. On his arrival he was placed under the standard, and found to measure five feet three inches. He attempted to reduce his height, but that species of fraud being well understood at the depot, it was instantly detected. The height in this and similar instances is reduced by flexing the head forward a little, pushing out the abdomen, and slightly bending the knees.

The position (says Mr. Marshall) of a recruit when he is measuring should be exactly that of a soldier under arms, with his eyes looking straight before him. But the best means of obviating deception is to measure a suspected person extended on his back. The difference between the horizontal and perpendicular height of persons was ascertained by Mr. Maguire, the adjutant of the depot, at the request of Mr. Marshall, in fifty-two cases, with the following results:

In 5 the horizontal length exceeded the perpendicular height - - - four eighths of an inch,
5 - - - - three eighths,
13 - - - - two eighths,
14 - - - - one eighth,
15 - - - - no appreciable difference,
—
52

being a mean difference of three sixteenths of an inch.

In another case, a recruit endeavored to increase his height by having a piece of light wood fitted to the head, like a saddle. This was covered with a coating of cobbler's wax, and the hair, which adhered firmly to it, was so disposed as to conceal the fraud very effectually from the sight. By means of this contrivance he added nearly an inch and a quarter to his height.

It is rather surprizing, that when noticing this subject, Mr. Marshall should not have adverted to the difference in the height of the same individual when taken in the morning on rising from bed, and in the evening.

Among the other subjects of notice under the first head, are the color of the skin, the muscular capability, the condition of the external surface, the configuration of the thorax, spine, and pelvis, and the condition of the upper and lower extremities, comprehending symmetry and the marks of previous or present disease, as fractures, contractions, varicose veins, &c. The recruit should be undressed during the examination, and in particular should be made to walk repeatedly across the apartment.

The author gives specific directions under each of the heads that we have mentioned, and urges strongly the rejection of such as exhibit the appearance of debauchery. "I know no species of recruits (he observes) more unfit for the service; they are seldom out of the guard room or the hospital."

The difference in strength between the right and left arm is familiar to all, but we do not recollect that examinations have been much made concerning their comparative size. In one hundred recruits, measured under the direction of Mr. Marshall, the result was as follows:

	Right arm thicker than left.	Left thicker than right.	No difference.	Total.
Right handed individuals,	68	5	18	91
Left handed, - -	1	6	2	9
				100

The disproportion in the right handed individuals varied from one eighth of an inch to six eighths, and it was as remarkable in youths as in persons more advanced, and who, of course, had applied themselves longer to the exercise of particular trades.

Varicose veins appear to be a frequent cause of rejection. Out of about 20,000 recruits inspected at three stations, 717 were rejected from that cause.

Flatness of the soles of the feet is deemed a good cause of rejection, as such individuals are unable to endure easily the fatigue consequent on long marches; more labor being required from them to produce a certain effect, than from persons whose feet are well arched. They also vacillate laterally in walking.

Some curious facts belonging to the statistics of medicine are elicited by the tables of Mr. Marshall. Thus, during the examination of 10,800 recruits, he found five in whom the right testicle was not apparent, and six in whom the left was not. In two of these cases, there was inguinal hernia at the side, where the hernia had not descended. Out of 6,229 recruits inspected at Dublin in 1825, eighty-two had hernia, and thirty-four labored under flatness of the soles of the feet. In fifty-five the spine was deformed, and in seven the pelvis. Ulcers and cicatrices of ulcers, wounds, &c., appeared in 138.

CLASS II. *Infirmities or Defects not obvious, chiefly internal.*—Under these, Mr. Marshall enumerates the following: chronic affection of the liver, nephritic complaints, liability to rheumatism, occasional hemoptysis, incipient phthisis, vertigo, frequent headache, dyspepsia, epilepsy, periodic asthma, imbecility, short sightedness, night blindness, stone in the bladder, stricture in the urethra, incontinence of urine, &c. &c.

Many of these infirmities possess no permanent external mark of their existence, and, consequently, may be simulated or escape observation during the short period a recruit is under examination.

CLASS III. *Feigned Defects.*—This is much practised by recruits, and particularly those raised in the country, who have often enlisted from some domestic broil, or some sudden excitement. They regret the step they have taken, and are willing to practise fraud in order to be relieved from it.

Mr. Marshall remarks that feigned infirmities are generally referable to three heads, viz. pretended, simulated, and excited disabilities. The last are, for the most part, external, though not always so.

To detect the varied forms which these are constantly assuming is one of the most disagreeable and arduous offices of the military surgeon, and we readily accord with Mr. Marshall in his opinion, that no small share of skill is required. Indeed, the ingenuity to which individual art and the knowledge transmitted from one soldier to another in hospitals has been carried, is such, that many of the most eminent and experienced physicians have been deceived.

Specific rules beyond those which are generally given, are of little use. Every case requires a separate investigation. It should be compared with the symptoms, history, and causes of the disease that is feigned, as given by the best authors, and verified by the examiner's own experience. Mr. Marshall advises, in doubtful cases, the exhibition of some inert substance, to which great virtues may be attributed. " But perhaps (he observes) there is no circumstance which so commonly distinguishes truth from fraud, as the report a malingerer makes of his complaints. His pains and other symptoms of disease are rarely, if ever, alleviated. He almost invariably reports that his complaints are either *worse*, or *just the same.* Now, it is almost unnecessary to remark, that there is perhaps no chronic disease, which does not admit of well marked remissions."

When convinced, after due examination, that a disease is feigned, the question next occurs how the surgeon is to act? Mr. Marshall fully concurs with Dr. Cheyne in believing, that harshness, either in manner, or even of punishment, will not tend to any useful purpose. It may intimidate the young recruit, but will, also, often incite the hardened to perseverance; and should it unfortunately happen that a mistake in diagnosis has been made, the reflections of the medical examiner must be mingled with severe regret. It is better to treat them with neglect—to continue the use of such low diet as it generally required in ordinary cases of disease—to intimate, in a pleasant way, the doubts of the physician;

and thus "to tire him by hospital discipline." Comparatively moderate uneasiness has often led to the detection of an impostor, when the infliction of very severe pain, avowedly imposed, would have been borne without his seeming to feel it.

> "A deserter from the 60th regiment was tried by a court martial, and sentenced to be transferred to the African corps. While in the Provost prison, Dublin, he asserted that he had lost the use of his inferior extremities. Both medical and moral means were tried in his case, but all in vain. He was sometimes suspended by the arms, in the hope of inducing him to support himself on his feet, without avail. After about fifteen months had elapsed, he was transferred to the general hospital, where he eventually exhausted the endurance of the medical officer, and at last was confined in a solitary prison ward. One evening, a pupil attached to the hospital, who slept in a room immediately over the ward in which he was confined, thought he heard the sound of his feet in the act of walking. The sound was afterwards frequently heard, but although the pupil repeatedly endeavored to discover him on foot, he never succeeded. At last he thought of a plan for detecting the impostor, which he put in practice after obtaining the sanction of the medical officers of the establishment. The plan consisted in rubbing the soles of the feet well over with *cowhage*, which was effected with impunity to the pupil, by means of the intervention of a doe skin glove; the impostor, of course, not being informed of the nature of the substance applied to his feet. When the spiculæ of the cowhage began to irritate the skin, he was heard to get out of bed, and during great part of the night he was walking and groaning, on account of the teazing sensation occasioned by the application; he even attempted to make his escape by climbing up the chimney, but in this measure failed. Next morning he gave in, and said he was now able and willing to go wherever he might be ordered; and in a few days embarked for England, on his way to Africa."

In some cases the final part of the management of a malingerer becomes a trial of patience between him and his medical officer. The latter, however, should never, if possible, yield, nor allow his patience to be exhausted. Dr. Cheyne has very justly remarked, that "every instance in which fictitious or fabricated disease escapes detection and punishment, becomes not only a reward granted to fraud, but a premium held out to future imposition."

From the catalogue of feigned diseases that are noticed by Mr. Marshall, we select the following, with his comments.

Fevers. Our author saw a case at Fort Pitt, where the tongue was brown and dry; the hue of demarcation, however, between the exsiccated part and the clear healthy margin of the tongue, was too well marked to escape observation. Brown soap has been used to coat the tongue, and the apparent bilious tinge of a coated tongue, may be caused by chewing a little gingerbread.

Chronic Disease of the Liver. This is a complaint often feigned, and as many of the soldiers have been for years in the East or West Indies, they are frequently well acquainted with the symptoms, and detail them accurately. In all doubtful cases, mild remedies should be employed. Mercury should never be used, as it protracts the stay of the individual in the hospital, and enables him, if deceiving, to pretend many subsequent affections. In one instance that occurred to Mr. Marshall, a recruit having become tired of a military life, feigned this disease, in order to obtain a discharge. He, however, *located* the pain in the *left* side, stating, at the same time, that he had "liver." It was treated as a very grave disease. Low diet, and a solution of tart. ant., alternately with the *mistura diabolica** were regularly exhibited. Under this discipline he held out for a month, and then recovered rapidly.

Pain Simulating Rheumatism, Lumbago, and Sciatica. This class of infirmities is frequently simulated, and the detection is difficult. The imposition is more frequently discovered by the inconsistencies and contradictions that a patient makes in the history of his complaint, than by diagnostic symptoms.

Pain, whether it be in the internal or external parts, is commonly periodical; and is generally aggravated towards evening. In real rheumatism, also, there is usually some puffiness of the affected part, and a certain degree of fever and disorder of the digestive organs, with considerable alleviations of pain. On the contrary, in simulated rheumatism, there is no puffiness nor fever; the appetite is good—the pain is never alleviated, *let the weather be what it may.* Still these diseases often deceive the most skilful and attentive, particularly if, as is often the case, the individuals submit readily to such remedies as blisters, issues, &c.

"In cases of simulated lumbago, where persons remained bent nearly double, baron Percy was remarkably successful in his attempts to produce conviction by engaging them in an interesting conversation, while an assistant approached insidiously and pricked them on the posteriors with a long needle."

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* This mixture consists of salts, infusion of tobacco, assafœtida, &c.; it is commonly given in very small quantities at a time, but so frequently repeated as to keep the taste constantly in the mouth.

Paralysis. Often feigned, and frequently long continued before it can be detected. The following case is an example:

> "A private in the 10th regiment, while on duty in the Mediterranean, pretended that he had lost the power of his lower extremities, and for a period of two years endured all that medical skill and suspicion of his testimony could suggest, with a view of enabling or forcing him to return to his duty. Before recommending him to be invalided, his medical attendant submitted him to the following trial: he was confined in a small room, and a shelf well stored with provisions suspended over his head, which he could easily reach by merely standing upon his legs, but not otherwise. At the end of forty-eight hours, the food remaining untouched, it was not considered advisable to prolong the experiment. He was then included in the list of invalids, and put on board a transport bound for England. While in the harbor, an alarm was given, about midnight, that the ship was on fire: every one hurried into a boat alongside. After reaching the quay, the passengers were mustered, and it was found that the paralytic invalid had not only succeeded in saving himself, but also his trunk and clothes. He was remanded to the ranks."

Epilepsy. Soldiers have sometimes feigned this when brought out for punishment. We add some of the symptoms by which the feigned disease is frequently characterized. In a feigned paroxysm, the contortions of the different parts of the body do not always come on simultaneously. When the hands are forced open they are quickly shut again; whereas in the real disease, they often remain expanded and as inflexible as a piece of wood. An impostor can readily simulate a number of voluntary symptoms, such as violent muscular movements, rolling of the eyes, sighing, &c. If narrowly watched he will, however, be found to open his eyes occasionally, for the purpose of observing what effect his tricks have upon the bystanders, and a rapid recovery commonly occurs, when it is proposed to apply the actual cautery, or any other violent remedy, thereby showing that the sense of hearing is not impaired.

Feigned epilepsy commonly intervenes at more regular periods than the real disease. Vaidy, a medical officer in the French army, convinced himself by moral evidence that a case of epilepsy was feigned. He told a young soldier, who had been admitted into the hospital on account of this disease, that the real affection always came on in the morning. The man swallowed the bait, and from that time the paroxysm invariably supervened before noon. He was soon ordered to join his regiment.

According to Mr. Marshall, an insensibility to the approach or application of irritating substances is the most decided proof that can be obtained, as during a paroxysm of real epilepsy sensation is totally suspended. Hence, if any evidence of feeling can be excited by stimulants, it may generally be inferred that the disease is feigned.

Deafness. It is difficult to simulate this affection consistently. When a conversation has been commenced with a man who pretends that he labors under this disability, he will not improbably continue to answer questions after the voice has been gradually lowered to moderate tone.

> "A recruit from Cork, who joined the depot of the East India Company at Chatham, alleged that he had almost totally lost the sense of hearing, and the evidence of his comrades went to support this testimony. Dr. Davies admitted him into hospital and put him upon spoon diet. For nine days, Dr. Davies passed his bed without seeming to notice him during his visits to the sick. On the tenth day, he felt his pulse and made signs to him to put out his tongue; then asked the hospital sergeant what diet he gave the man. 'Spoon diet,' replied the sergeant. Dr. Davies affected to be very angry, and said 'Are you not ashamed of yourself; the poor fellow is almost starved to death; let him instantly have a beef steak and a pint of porter.' Murphy could contain himself no longer—he completely forgot his assumed defect, and, with a face full of gratitude, addressed Dr. Davies, saying, 'God Almighty bless your honor—you are the best gentleman I have seen for many a day.'"

We have exceeded our limits in the notice of this work, and must stop here, but we cannot conclude without recommending it to the perusal of all military medical officers.

T. R. B.

ART. IV. *An Account of the Morbid Appearances exhibited on Dissection in disorders of the Trachea, Lungs, and Heart; with Pathological Observations, to which a Comparison of the Symptoms with the Morbid Changes has given rise.* By THOMAS MILLS, M. D., Honorary Fellow of the King and Queen's College of Physicians. Dublin, 1829.

ALTHOUGH we are not affected by the mania which resolves the whole science of medicine into a knowledge of pathological anatomy, we are always ready to avail ourselves of every opportunity of becoming acquainted, either by actual inspection or by the evidence of others, with the appearances which dissection develops after fatal diseases. We do not, indeed, concur with Dr. Mills in the opinion, that *morbid anatomy is the principal source of practical knowledge*, but we do regard it as an important and indispensable accessary, without which our views of disease would be imperfect, and, too frequently, erroneous. It traces the connexion between the more prominent signs and morbid changes, and, so far as we are authorized to regard these as cause and effect, points out valuable indications for future practice. The danger is, that this connexion may be supposititious only, or that the eye, eager to discover certain appearances, will assume their existence gratuitously or blindly, and even attempt to explain their absence upon hypothetical grounds. We are not inclined to entertain this fear with respect to the author of the valuable treatise before us, as his established reputation for accurate observation and sound reasoning places him above the temptation of seeking popularity by sailing at random with the fashionable current of the day. His work on fever is favorably known in this country, and we are happy in being able to communicate the contents of the present volume to our readers at so early a day after its appearance.

In the introduction, Dr. Mills expresses the hope that his object in presenting this treatise to the public will not be misunderstood. While he is compelled, by facts, to maintain the inflammatory character of the diseases described in his pages, he does not intend to assert that every disorder of the heart, trachea, or lungs is inflammatory, neither is he an advocate for indiscriminate bloodletting. He repeats, on the contrary, what he advanced in his able essay on fever, that this view and treatment is, in some (he might have added many) cases, useless or injurious. It is necessary, in short, to *individualize*, that is, to consider the particulars of every case, the age, sex, constitution, the habits and previous state of health or disease, the climate and the character of the prevailing epidemic, and the various influences, physical and moral, which affect the condition of the patient. With this view every candid reader must be satisfied, and it will induce him to place the greater reliance on the statements, and entertain the greater respect for the judgment and candor of the author.

Cynanche Trachealis.—Dr. Mills has repeatedly met with cases of this affection, unaccompanied by that croupy noise in respiration, which generally distinguishes it. A great error may, therefore, be committed by those who wait for its appearance before they proceed to make active efforts to subdue the disease. We lately had a case of this kind under our care, in which every symptom of croup was present except the diagnostic sound. Had we waited for its occurrence, we feel confident that our little patient would have fallen a victim to the severity of the disease under which it labored. Recourse to the usual effective remedies restored it to health.

In the *first* case related, tonsillitis accompanied the tracheal inflammation, and occurred during the eruptive stage of measles. The eruption was copious, and the fever high; suffocation was twice threatened, and as often relieved by bloodletting, cathartics, and emetics, and by the application of blisters and leeches near the seat of the disease. Calomel and antimonial powder were prescribed and fomentations used without benefit. The patient was five years old. The bleeding was carried to the extent of six ounces on the first attack and eight on the second. Fifteen leeches were applied to the throat. Recovery took place on the eighth day.

In the *second* case, that of a young lady, twenty-six years of age, brochotomy was performed, but the event was fatal. On dissection, the lining membrane of the trachea and bronchiæ was found inflamed, and covered with coagulable lymph and purulent matter.

In the *third* case, death took place twelve hours after the attack. On dissection, the inferior portion of the trachea was found covered with a thin cream colored purulent matter, its superior portion completely obstructed by coagulable lymph, beginning to have the appearance of an adventitious membrane, and the entire mucous coat had a vascular appearance. The bronchia, lungs, and heart, sound. The only medicine which had been employed was castor oil.

The *fourth* was a case of chronic croup, which returned in paroxysms for the course of two or three months. Leeches were applied in the first instance. Emetics and the tepid bath, blisters, and cathartics were afterwards given. Leeches and blisters were repeated in ensuing paroxysms, and pills of calomel and watery extract of opium. The disease continuing, antimonial ointment was used, applied to the internal fauces, and followed by considerable eruption and copious discharge—*cured*.

The *fifth* case was characterized by the violent spasms of the larynx and trachea, threatening instant suffocation. That they were caused by inflammation is inferred from the good effects of evacuants and counter-irritants. This inference appears to us fallacious. Dr. Mills admits that in one post mortem examination at which he was present, the marks of inflammation were not unusually striking, yet the spasms were urgent, and apparently caused the death of the child.

The *sixth* case presented symptoms of laryngitis as well as tracheal inflammation. They were all relieved by active bleeding, &c.

In general, Dr. Mills recommends in all these cases blood-letting, general and topical, blistering, emetics, cathartics, and the hot bath to be used in quick succession. Blood should be taken from the jugular vein or arm; leeches are to be applied to the external fauces; an emetico-cathartic is to be exhibited, and the patient is to be immersed for fifteen, thirty, or forty minutes in a hot bath, and the leech bites encouraged to bleed. Should these means fail to produce relief, a blister is to be applied over the external fauces, or, what is more efficient, boiling water. Calomel and opium combined with James's powder should then be given; they prove eminently useful by equalizing the circulation, and exciting the action of the cutaneous vessels. The more active means are to be repeated if necessary.

Dr. Mills has been led to think, from dissection, that the croupy noise occurs most frequently when the upper portion of the larynx is inflamed.

Cynanche Maligna.—The inflammation of the tonsil degenerated in this case into this affection, and was not relieved by the usual remedies. The inflammation having extended to the bronchiæ and lungs, active depletion was had recourse to, immediately after the employment of which, the ulcerated surface looked better. The patient was young, however, and bore treatment which an old and debilitated constitution could not have supported. Even in these last cases, where wine, bark, and cordials are indispensable, attention must be directed to the bowels, and to the secretions generally, and leeches and blisters may be sometimes used.

The ulcerated sore throat is now a comparatively rare disorder. Dr. Mills asks very pertinently, if this is not to be ascribed to the more enlightened views and improved methods of treatment, whereby inflammation is checked at the onset? Undoubtedly it is.

Diseases of the Lungs.—We shall quote the author's preliminary observations, as they are full of condensed information, unsusceptible of analysis.

> " On a review of the following cases and dissections, I find that ossification of the cartilages of the ribs, and chronic inflammation of the heart, and of the lining membrane of the bronchiæ and lungs, are frequently detected in the bodies of those who labored under asthma; and that a collection of a watery fluid in the peri-

cardium is often found to accompany an obstruction of the lungs, even where the heart and pericardium are not diseased.

"These and other cases and dissections, likewise inform me that hydrocephalus often supervenes to an impeded circulation in the lungs or heart: this is a valuable fact, inasmuch as it may serve to direct the attention of the practitioner to the first symptoms of morbid action in the brain.

"In more than two or three cases where the right lung was extensively diseased, it has been discovered that pulmonary symptoms were mistaken for hepatic; and, in one instance, a disorder of the colon was mistaken for a disease of the liver. The detection of these errors is highly important; it will induce us to pause a little before we decide on the seat or nature of the complaint, or prescribe a medicine which may possibly prove injurious.

"Many of the cases of diseased lungs here detailed, were accompanied by symptoms of angina pectoris; in one only the coronary arteries were ossified; in two, the foramen ovale was found open.

"Here I beg leave to remark, that cases of phthisis pulmonalis often arise, which call for a generous diet and a moderate quantity of wine; in proof of which, I give two cases that came under my care during the last year: in the latter stages of this disease, when the body is weak and emaciated, a sedative regimen and sedative remedies are detrimental, and when we look at the unhealthy and schirrous condition of some ulcers in the lungs, it is clear that such a plan, by lowering the tone of the constitution, must shorten the life of the patient.

"Connected with one of the cases is a dissertation on a disease usually styled tubercular, but which I have denominated lymphatic phthisis, on the ground of its being a disorder of the lymphatic vessels and glands of the lungs."

The *first* case recorded is that of a very corpulent gentleman, accustomed to indulge in the use of fermented liquors, and the pleasures of the table. Cough and dyspnœa, pain and weight in the left side, pulse 104, yellowish tongue, thirst, restlessness. V. S. ℥viii. and cathartic. The blood was suffused—dejections dark colored. Shiverings, pain in the left side. Blister and squill mixture. Palpitation and purulent expectoration were next added to symptoms. V. S. ℥xii. and cathartic. Relief was obtained; but three days after, pain in left side returned, with oppression and palpitation—flushed face—fever. V. S. ℥xii. cathartic and blister. Some relief; but the sense of weight and oppression continue, and in a few days complaint returns, accompanied by spasms of the lungs and legs, numbness and weakness of lower extremities. Blisters. The numbness then extends to the abdomen, and an inability is experienced in passing the feces and urine. Orthopnœa, hectic fever, increase of numbness, involuntary dejection, hiccup, and death.

"*Dissection.* Colon—considerably distended with air; it is about five inches in diameter, and its coats are thicker than natural.

"Stomach—about five times its usual size; it descends below the umbilicus.

"Spleen—so soft as to break down into a pulp on being handled; its internal substance is of a claret color.

"Bladder—coats thickened; a stricture an inch in length is discovered in the urethra.

"Between the skin of the abdomen and the peritoneum the fat is three inches in thickness.

"Omentum—loaded with fat.

"Lungs—fleshy and in some parts firm; the bronchiæ are lined with a thickish yellow fluid: towards the posterior inferior portion of the right lung are found some calculous concretions. The root of the lobe of the left lung is adherent to the pericardium and mediastium; this portion of the lung has the appearance of a whitish tumor, larger than an orange, which, on being cut into, is of a semi-cartilaginous texture, and contains numerous cells and tubercles filled with purulent matter: on examination it would appear that the diseased action was extending into the contiguous substance of the lungs, which is more firm and fleshy than any other part.

"Pericardium—adherent to the diaphragm, and contains about four ounces of serous fluid.

"Heart—of a natural size and appearance; the root of the semilunar valves of the aorta is thickened.

"About half a pint of serous fluid is found in each cavity of the chest."

In the *second* case, hydrocephalus cut short the life of the patient. He had been subject to asthma, and the cartilages of the ribs were found ossified, a circumstance often noticed by Dr. Mills.

The *fourth* case is interesting, as it was preceded by all the symptoms peculiar to hepatic disease, as pain in the right hypochondre, shooting to the shoulder and umbilicus, low fever, diminished appetite, irregular bowels and variegated stools, and the pink sediment in the urine; yet, on death, no disease was discovered in the liver. The right and left lung were tuberculated, and there were two vomicæ in it—extensive adhesion. Intestines and stomach inflamed—three ulcers in colon half an inch in length and one fourth in width. Dr. M. thinks the inflammation of the mucous membrane of the trachea œsophagus and stomach was occasioned by irritation of acrid expectoration.

In the *sixth* case, pain in the right hypochondre gave rise to the opinion that the liver was principally affected. Dissection exhibited it sound—a slight adhesion only subsisting between its convex portion, and the parietes of the abdomen indicated a low degree of inflammation, which had occurred in the early period of the disease. Cough, dyspnœa, hectic fever, palpitation, and double sighing, were the prominent and urgent symptoms. The lungs were found tuberculated and ulcerous, and a large quantity of watery fluid in the pericardium. The stethoscope would, in this instance, have assisted in forming a correct diagnosis. Dr. Mills scarcely alludes to this instrument.

The *eighth* case was an instance of inflammation of the lungs and brain, causing premature labor and death. The appearances on dissection were confirmatory of these symptoms in life. The arachnoid membrane and pia mater were thickened and opaque, and between these membranes a purulent matter and coagulable lymph were observable. A large portion of watery fluid was found in the ventricles and at the base of the brain. The same appearances were discovered in the chest and abdomen.

Case *ninth* was one of ulcerous phthisis, with hepatization of the lungs and enlarged liver.

Symptoms. Mrs. P., aged 29, subject to habitual dyspnœa and palpitation; has had cough for months, accompanied by muco-purulent expectoration and fever, frequent vomiting in the morning, inappetency, and indigestion. Has indulged in fermented liquors, and had three children. Pulse 116, weak and irregular—has hæmoptysis, fæces dark, urine lateritious, tongue yellow on the sides, and red in the centre; weight and oppression in the sternum and epigastrium, dyspnœa, palpitation, liver enlarged. These symptoms increased in violence, delirium and lurid countenance, death.

Dissection. Abdomen—integuments and omentum loaded with fat. Stomach—preternaturally large, muscular coat thicker than usual. Liver—right lobe larger than natural, descending below the cartilages of the ribs, left lobe occupies the entire epigastre, and extends into the left hypochondre; both lobes of a light brick color, mottled and soft. Gall bladder—contracted, and contains yellow bile. Spleen—of a deep purple color, and soft. Thorax—lungs adherent to the parietes, do not collapse; congested with venous blood, so as to have a fleshy appearance. In the centre of the middle lobule of the right lung, are two ulcers communicating with the bronchiæ, about two inches in diameter, and lined with a brownish purulent fluid. In the left lung a similar color. Pericardium contains one ounce and a half of serous fluid. Heart—natural, but foramen ovale not closed; the aperture would admit a goose quill.

The *thirteenth* case shows that inflammation of the joints is sometimes accompanied by great and extensive inflammation of the vital organs. Profuse diaphoresis and catharsis produced no relief; bloodletting alone abated the symptoms. The blood exhibited a singular appearance, buffed and cupped at the top to about an inch in depth, then a coat of blood about one fourth of an inch in thickness, below which the buffy coat again presented itself, half an inch in thickness.

Lymphatic Phthisis.—In a very interesting case related of this affection, extensive disorganization had taken place in nearly all the viscera of the body. The glandular system universally affected. Dr. Mills maintains that the lungs abound with lymphatic vessels and glands, but these are only apparent when enlarged by disease, and then they are designated as scrofulous tubercles. They follow the same laws, and present the same symptoms, as similar glands in the neck: when inflamed, there are heat, fugitive pain, swelling, fever—when suppurating, a cheesy, curdy, or lympho-purulent matter is present. Why, then, argues the author, shall not the same method of treatment be applicable to both cases, making due allowance for difference of structure? while inflammation subsists in either, active depletion is indicated, and the only reason why the indication is not followed, or even recognized, in these, is that the disease, being termed scrofula, is supposed to be one of debility—a capital error. What are called scrofulous tubercles, then, our author considers to be lymphatic vessels, or a congeries of these vessels called glands, in a state of inflammation and suppuration.

The predisposition to lymphatic phthisis may generally be suspected by well known characteristics of complexion, diseased condition of the cervical, axillary, and mesenteric glands, the effects of dentition and juvenile dentition, &c. Great care must be taken to prevent the exciting causes from lighting up the predisposition into actual disease. This is to be effected by diminishing the irritability of the system, giving tone to the constitution, and preserving in a healthy condition the different organs and functions of life. The following is a masterly description of the disease:

> "I have stated that lymphatic phthisis is obscure in its origin, and of slow growth; there are symptoms, however, by which its approach may be detected, and, in some cases, in time sufficient to arrest its progress—these are, an appearance of delicacy in the expression of countenance and in the frame of the body, a slight cough, or rather hem, generally unattended by expectoration, and

seldom noticed by the patient or his friends, and if noticed by strangers not acknowledged; the pulse is above the natural standard, and easily excited; the respiration is hurried by slight causes, and there is frequent palpitation; a face commonly pale or sallow is easily flushed; a sense of weight or fulness is frequently felt in the head, accompanied by vertigo or tinnitus aurium; the usual exercises are followed by lassitude and languor; and there is a slow but gradual emaciation.

"As the disease advances, slight fugitive pains and a sense of oppression and weight are occasionally complained of in the chest, and aggravated by a deep inspiration; the digestive organs are disturbed, and the excretions assume a preternatural appearance; a low, irregular fever comes on, indicated by thirst, heat of skin, slight chills, frequency of pulse, and whitish tongue: such is a general outline of the complaint in its first stage, when there is some hope of checking its progress. In its second or confirmed stage, the symptoms are so prominent and so dangerous, they can neither be mistaken nor removed; it is worthy of remark, that the sputa, in tubercular phthisis, are seldom tinged with blood; these tubercles are found in distinct cysts, and, being the product of diseased lymphatic vessels and glands, we cannot expect them to contain blood, but we discover a cheesy or curdy matter, varying in color and consistence according to the intensity and duration of the disorder, resembling the curdy, whitish, and wheyey matter detected in the lacteal glands of the mesentery when inflamed and suppurated.

"It is curious and deserving of notice, that these tubercles should not only be compared to milk in the shape of cheese, curds, cream, or whey, but that the taste of the sputa should be the same, saltish or sweetish, and when in a state of putrefaction, both products should be equally offensive. Is not the schirrous appearance so frequently noticed in the ulcers of the lungs, an additional argument in proof of the glandular nature of tubercular or lymphatic phthisis?"

As prophylactics against the development of this disease, setons or issues, established in different parts of the thorax, are most servicable. Warm clothing, a pure dry air, a serene sky, and an equable climate, are desirable, but Dr. Mills asks, where are they to be found? We think some of the islands in the West Indies afford the best situations for consumptive patients in the world. Perflated by refreshing sea breezes, enjoying a uniform temperature, proverbially dry, and enriched with the most delicious fruits to be found on the face of the earth, they possess every advantage of locality that an invalid can desire, and offer every prospect of relief, if the advances of disease have not already been too great. Such an island we know CURACOA to be, and have every reason to believe that several other islands are not inferior in their suitableness to consumptive patients.

In the former, we have seen patients who had labored under the most unpromising symptoms very unexpectedly recover, their constitutions renewed as it were by the eternal sunshine and bracing trade winds—and their despondency vanishing before the delightful influences of hospitality and ease. Dr. Mills recommends a voyage to the United States in the American packet ships as a useful measure in the earlier stages of the disease.

Cases of Recovery. In the first case there was gross purulent expectoration, dyspnœa, emaciation, and debility, hectic fever, loss of appetite and rest, and a long endurance of the disease to alarm and lead to an unfavorable prognosis. Tubercles were, at different periods, thrown up, and the cavities must have consequently healed up, as the cough diminished and other symptoms abated. Small blisters to different parts of the chest always afforded relief; opiates produced ease, abating the cough and procuring rest, and, at no one time did they check the expectoration. These were, however, only palliative remedies. Purgatives more especially, a nutritious diet, claret wine in moderate quantities, and a well regulated temperature, effected the cure. For upwards of three months the patient took purgatives several times daily, and the quantity of fecal matter discharged was very great. When the bowels were confined the patient was uneasy—hence, Dr. Mills argues, that there was torpor in the secreting vessels of the intestines. No one will dispute this, surely. When this was removed, "every function of life seemed again to be restored, and he felt light and cheerful." Dr. Mills concludes with the observation, that if he was asked why he gave purgatives so freely, his reply would be, because they afforded decided relief. Were it not for the tubercles thrown up, we should consider this as a pure case of the mimosis acuta of Dr. Marshall Hall. Had the stethoscope been used in this case, it would have been much more instructive than it now is.

In the next case the pulse was preternaturally slow, the countenance pale, the eye fixed, and the speech inarticulate, the extremities were cold, and every symptom of approaching dissolution. Wine and a cordial draught improved the whole appearance of the patient. As the stethoscope was not employed, we cannot concur in the author's somewhat arbitrary designation of this case under phthisis pulmonalis. The same remark will apply to the three remaining cases of recovery. We cannot help regretting that the author should have thought it necessary at the end of each case to record the name of the druggist from whom the medicines employed were procured. It savors a little too much of coalition between the doctor and the shop, and must certainly deface the book in the eye of every reader not resident in Dublin.

Diseases of the Heart.—Eighteen fatal cases, and eight of recovery, are minutely recorded, in all of which the heart was the actual or supposed seat of disease. We say *supposed*, because, as the stethoscope was not made use of in any one instance, it might be doubtful whether in the cases of recovery this organ was really affected. We shall briefly enumerate the several cases.

Case 1st. Considerable enlargement of the heart, general adhesions of the pericardium. Symptoms—asthma, palpitation, frequent, hard, and intermitting pulse, and angina pectoris.

Case 2d. Rheumatism of the heart, great enlargement, with dropsy of the pericardium.

Case 3d. Disease of the heart mistaken for that of the lungs.

> "Morbid anatomy serves to detect errors in practice, and to correct false theories; it serves also to make the physician modest and cautious in delivering his opinion as to the seat, nature, and probable termination of disease.
>
> "In this case I ascribed the affection of the chest to the presence of deep seated tubercles in the lungs, and the palpitation and oppression of the heart to the irritability and engorgement of this organ, occasioned by the difficult transmission of the blood through the lungs. On dissection, I discovered that this opinion was ill founded, and that the symptoms were chiefly referable to subacute inflammation of the pericardium and its adhesions to the heart and adjoining membranes; hence, the dry cough, the dull pain in the left side, spreading to the left shoulder and scapula. the palpitation, præcordial oppression, dyspnœa, and irregularity of the pulse. To the extension of the inflammation of the pericardium may be ascribed the general adhesions detected in the left side of the chest and the serous effusion in the cavities, and this effusion and the incipient hepatisation of the left lung contributed in a material degree to increase the dyspnœa and destroy the life of the patient. Notwithstanding the opinion formed of the seat and nature of the complaint was incorrect, the anti-inflammatory treatment adopted was judicious; unhappily, two months had elapsed before medical advice was called for; disorganization had now taken place, and no remedy could avail."

Case 4th. Diseases of the heart with dysphagia.

Case 5th. Enlargement of the heart with adhesion to the pericardium, giving rise to effusion into several cavities. Symptoms—palpitation and dyspnœa, cough, but no expectoration, pulse quick and irregular, heart apparently enlarged, orthopnœa, general anasarca.

Case 6th. Organic disease of the heart and pericardium, disordered liver, and dropsical effusion. From the comment on this case we extract the following instructive remarks:

> "The first illness of this patient—cough, rheumatism, palpitation, and præcordial oppression—was produced by fear, long fasting, and exposure to cold and wet; the second was fever, called, according to the theory of the day, typhus; the third, chronic inflammation of the heart; the fourth, acute inflammation of the heart; the fifth, general dropsy; comprised within a period of about nine years. The heart was the organ primarily and principally engaged throughout these illnesses; disturbed first in its functions by fear, hunger, and cold, it was readily acted on by the common exciting causes; inflammation and disorganization succeeded, and, finally, dropsy and death. The great enlargement of this organ, the close and general adhesion of the pericardium to its substance, and the diseased condition of its valves, prove that the changes it underwent were chiefly the result of chronic inflammation, and that the complaint must have been of long duration. To the irregular actions and disorganization of the heart may be ascribed the pain, throbbing, and palpitation; the hard, frequent and irregular pulse; the dyspnœa, and the distress and difficulty attending every bodily exertion; and to the impediment to the free transmission of blood through the heart and lungs, we may refer the effusion of a watery fluid into the thorax, the orthopnœa, the purplish hue of the face and extremities, &c. And while these appearances account for the symptoms referable to the chest, the enlarged, indurated, and inflamed state of the liver, serves to account for the fugitive pains and uneasiness felt in both the hypochondria and the serous effusion into the abdomen."

Case 7th. *Angina Pectoris.*—The subject of this case, fifty-five years of age, suffered much with the usual symptoms of this affection, oppression in breathing, pain the upper part of the sternum extending to muscles of the neck, sense of strangulation, pale face and lips, and suspension of the vital powers. Hyoscyamus and the tartrate of iron were prescribed; also, antispasmodics and a blister. No great relief. The black drop produced some. The following were the post mortem appearances:

> "The cartilages of the ribs were so completely ossified, that it was necessary to make use of a saw; the watery effusion in the cavity of the chest amounted to eight or nine pounds; the heart was large and flabby, and deficient in that floridness which the healthy heart possesses. The coronary arteries were ossified through their whole extent, and impervious to the smallest probe. The internal

surface of the aorta, for three or four inches from its origin, was beset by numerous osseous squamæ; the artery was rather dilated."

Dr. Mills maintains that ossification of the coronary arteries is not the only cause of angina pectoris. Disorganization of the muscular substance of the heart or of its valves, adhesions of the pericardium, and dropsy of this membrane, will also produce it. The complaint appears to depend on a temporary paralysis of the heart, and as life may be suddenly extinguished, cordials, opiates, the recumbent position, pure air, and wine, are clearly indicated.

Case 8th. Enlargement of the heart, diseased lungs and liver.

Case 9th. Do. with hydrops pericardii.

Case 10th. Disease of the heart and its valves, general dropsy. This occurred in a child of only seven and a half years old.

Case 11th. Heart, lungs, and liver diseased, and symptoms of angina pectoris.

Case 12th. Great enlargement of the heart, and dropsy.

Case 13th. Disease of the heart, anasarca, and dropsical effusion into the three great cavities; operation of paracentesis performed with temporary relief. On dissection of this case, the cœcum was found in the epigastric region—an unusual circumstance. Observations by the author:

"The palpitation of the heart, the intermitting, irregular pulse, the cough, hemoptysis, and purulent expectoration and the frequent sense of strangulation, indicated disease of the thoracic viscera. On examination, the heart was found considerably enlarged, its valves were disordered, and the pericardium bore evident marks of inflammation; there was a universal adhesion between the pleura pulmonalis and costalis of the right side, and a large quantity of serous fluid was found in the left cavity of the chest, and in the pericardium.

"The lungs were sound, although hemoptysis and purulent expectoration accompanied the cough; but the lining membrane of the bronchiæ was thickened, inflamed, and covered with matter similar to that expectorated.

"There was headache, stupor, coma, and delirium; a watery fluid was detected between the membranes and in the ventricles of the brain.

"Several symptoms of indigestion were present, accompanied by ascites and anasarca, and by a sense of uneasiness in the epigastrium; the liver was found tuberculated and schirrous."

Case 14th. Chronic pericarditis, &c.

Case 15th. Diseased heart and lungs.

Case 16th. Chronic inflammation of the heart and pericardium.

Case 17th. Enlargement of the heart, dropsical effusion, &c.

Case 18th. Acute inflammation of the heart and pericardium, &c.

Cases of Recovery.—The first is an instance of angina pectoris in which benefit was derived from an abstemious diet, perfect rest of mind and body, mild aperients, leeches, and a long continued drain in the region of the heart. Hence it is inferred that the disease depended in part, at least, on chronic inflammation.

Case 2d, was an acute inflammation of the heart and lining membrane of the stomach. Treatment consisted in general and local bloodletting, aperients, turpentine injections, and was successful.

Case 3d. Chronic inflammation of the heart mistaken for a gouty affection.

The remaining cases are inflammatory affections of this organ relieved by bleeding and anti-inflammatory measures. They are all instructive, but too minute to bear transfusion into our pages. We have given a full view of the contents of this instructive volume, and with the exception of the neglect of the stethoscope in cases so aptly requiring its employment, we have every reason to commend it to the profession, as a useful and well written manual.

ART. V. *Illustrations of the Diseases of the Breast.* By Sir ASTLEY COOPER, Bart., F. R. S., Serjeant Surgeon to his Majesty, Consulting Surgeon of Guy's Hospital, Lecturer on Anatomy and Surgery, &c. &c. &c. In two parts. Part 1st. London, 1829. 4to., pp. 89.

SELDOM does the eye of the medical critic repose on so splendid a specimen of typographical beauty as is here spread before him by the rich letter press of this ample quarto, embellished by nine beautifully colored engravings. Devoted to a most important subject, it derives all the additional interest which the elevated character, extensive experience, and original views of the author can bestow upon it, and will recommend itself to the attention of every student of surgery. In its present costly dress it is not likely, however, to meet the eyes of many members of the profession in this country.

A succinct account of its pages must, therefore, prove a grateful offering at the present time.

The diseases of the breast are divided into two classes—those which are, and those which are not, malignant. The first class only is treated of in the part now published. These do not arise from a vitiated state of the system, nor produce any dangerous constitutional effects; neither do they contaminate the parts in their neighborhood, nor affect those at a distance from their original seat.

Alterations will, however, be sometimes produced in these swellings, when they have existed a long time, by changes of the constitution, which may render their extirpation necessary. Malignancy may be lighted up by disease of the constitution, by mental anxiety, and also by the cessation of the menstrual discharge.

Sir Astley dwells with significant emphasis on the advantages of distinguishing incurable from curable diseases; the dangerous from those which are slight; those which require surgical operations, whether of a severe or a trifling nature, from those which do not. The uninformed surgeon is too apt to fall into the vulgar error of confounding every affection of the breast with cancer. It is not long since we heard of a surgeon who had decided upon the extirpation of a tumor in the breast of a lady, who, alarmed at the idea of the knife, requested another surgeon's opinion. Leeches and the antiphlogistic treatment were adopted, and in a few weeks the tumor disappeared! There is a great variety in the diseases of the breast, and it is the special object of sir Astley Cooper to call the attention of his brethren to the duty imposed upon them of becoming acquainted with the different appearances these varieties assume.

Some of the tumors which affect the breast are the result of acute inflammation; others are of a simply chronic kind; some are chronic, but attended by a specific action; others, lastly, are specific and malignant. Now a diagnosis between these can only be accomplished by careful and nice manipular examinations; by repeated inspection of parts which have been removed by operation; by examination of those met with in the body after death, and by a minute history of each individual case.

"I have scarcely witnessed a stronger expression of delight," says sir Astley, "than that which has illuminated the features of a female—perhaps the mother of a large family dependent upon her for protection, education, and support—who, upon consulting a surgeon for some tumor in her bosom.

and expecting to hear from him a confirmation of the sentence she had pronounced upon herself, receives, on the contrary, an assurance that her apprehensions are unfounded. Pale and trembling, she enters the surgeon's apartment, and baring her bosom, faintly articulates, Sir, I am come to consult you for a cancer in breast; and when, after a careful examination, the surgeon states, he has the pleasure of assuring her that the disease is not cancerous—that it has not the character of malignancy—that it is not dangerous, and will not require an operation, the sudden transition from apprehension to joy brightens her countenance with the smile of gratitude; and the happiness of the moment can scarcely be exceeded, when she returns with delighted affection to the family from which she had previously considered herself destined soon to be separated by death, with the alternative only of being saved by a dubious and painful operation." P. 4.

What, then, must have been the feelings of the lady to whose case we have alluded above, and with what contradictory sensations must she have regarded the ignorant operator who would have doomed her to useless misery, and the skilful surgeon who stayed the dreadful doom!

The diseases of the breast may be divided into three classes:

First, into those which are the result of common inflammation, whether acute or chronic.

Secondly, those which arise from peculiar specific action, but which are not malignant, and do not contaminate other structures.

Thirdly, those which are not only dependent upon local, specific, and malignant action, but are connected with an unhealthy state of the constitution.

By malignancy the author understands a local diseased action, not only affecting the parts in which it has its original seat, but contaminating those in its neighborhood. It is produced by a morbid state of the constitution, and is frequently accompanied by similar disease in other parts of the body. This definition, proceeding from such high authority, will, perhaps, satisfy those who are fond of a number of words jumbled together so as to fill up a sentence easily remembered. It certainly enjoys the merit, not very rare in medical technology, of being sufficiently periphrastic.

Under the first class are comprehended the acute inflammation of the breast, as the milk abscess; the chronic inflammation, which remains for some time in a state of indolent swelling, and often terminates in an indolent abscess; and the lacteal tumor, in which the chronic inflammation is followed by obstruction in one of the lactiferous tubes, producing a large lacteal tumor.

In the second class are included,

1st. The hydatid tumor.
2d. The chronic.
3d. The ossific.
4th. The adipose.
5th. The large and pendulous breast.
6th. The scrofulous.
7th. The irritable breast.
8th. The ecchymosis of the breast.

The third class consists of the scirrhous and fungous tubercles which are malignant.

Acute Inflammation.—It is unnecessary to dwell on the symptoms of this affection, as they do not differ from those presented in other parts of the body. It is adhesive in the first, suppurative in the second, and ulcerative in the third stage. A firm, sensitive tumor of the whole or part of the mammary gland is produced in the first stage, and the dense fascia which envelops this gland causes the most intense suffering. To this enlargement succeeds a blush of redness on the surface of the breast—then follow the pulsatory throbbing pain, the prominence and smoothness of a part of the tumor, and fluctuation. The constitution sympathizes—the cuticle separates—ulceration follows in the cutis, and the matter is discharged through the opening.

From ten days to three weeks are required for the completion of these processes. The most common causes are irregular determinations of blood to the organ, a neglect of putting the child early to the breasts, and stimulant drinks.

In the adhesive stage, sir Astley uses a lotion of one ounce of spirit of wine and five ounces of water, of liquor plumbe dilutus, and purgatives. Should the patient suffer from cold application, tepid poultices and leeches may be substituted.

Should the suppurative process not be prevented, fomentations of poppy decoction, and poultices made with the same, mixed with bread, should be applied three or four times a day. They encourage secretion by their warmth, soothe and relax the part, and diminish the irritation.

To allay the general sufferings of the patient, opium, combined with the spiritus mindereri or the saline draught, will be necessary.

Shall the Abscess be opened?—"If the abscess be quick in its progress, if it be placed on the anterior surface of the breast, and if the sufferings it occasions are not excessively severe, it is best to leave them to their natural course, rather than employ the lancet for the discharge of the matter. But if, on the contrary, the abscess in its commencement be very deeply placed, if its progress be tedious, and if the local sufferings be excessively severe, if there be a high degree of irritative fever, and the patient suffer from profuse perspiration and want of rest," then the opening should be artificially made. The opening should be made where the matter is most superficial, and the fluctuation distinct. Its size should be proportioned to its depth.

Sometimes several of these abscesses form in the same breast. Opium and quinine will be required in this case. When sinuses form owing to the depth of the abscess, it is necessary to inject them with a solution of two or three drops of the strong sulphuric acid in an ounce of rose water, and apply the same solution by folds of linen over the bosom. The secretion of matter is thus checked, and adhesion induced.

In deep abscesses between the posterior surface of the breast and the ribs, leaving sinuses leading to the ribs and followed by an exfoliation of part of the rib, the same acid injection is the best treatment. The knife is unnecessary. A malignant character will sometimes be assumed by the milk abscess. A case is related of a lady in whom anxiety produced this effect and proved speedily fatal.

The emplastrum ammoniaci, cum hydrargyro, or frictions with the iodine ointment, will remove the hardness that is sometimes a sequela to this affection.

As a general rule, the child should be permitted to suck as long as the mother's sufferings will allow it.

Sore Nipples.—This is known to be a very troublesome affection, annoying to both patient and practitioner, and often baffling the best directed efforts for their removal. It appears, according to our author, in three forms: first, in simple excoriation; secondly, in deep cracks at the junction of the nipple with the areola; and thirdly, in deeper ulceration of the nipple by which a part of it is removed. The pain in these cases is so great, frequently, as to forbid the child's suckling, from which cause abscess may be formed. The best application to the first form is a solution of borax in water, viz. a drachm of the former, three ounces and a half of the latter, with the addition of half an ounce of alcohol.

To prevent nipples from becoming sore, a lotion of strong brine, to be used some time before the lying-in, is recommended. It hardens the cuticle, and renders it, of course, less liable to ulceration. Ointments are not highly spoken of in these affections. If any be used, it should be the ointment of bismuth or zinc, or the simple cerate.

We are the more minute in our analysis, as we think it applicable to the every day wants of the practitioner.

Chronic Abscess.—The length of time it requires to form the little pain attending it, the absence of redness and of heat in the part, the want of rigors and other constitutional symptoms are characteristic of this tumor. It is frequently suspected to be a malignant swelling, requiring an operation for its removal. This mistake has frequently continued, until the knife, with which the extirpation was to be made, having accidentally entered the abscess, the escape of matter first informed the surgeon of his error. The sense of fluctuation appreciable on careful examination, and tenderness on continued pressure, have generally directed sir Astley to a correct diagnosis.

In the treatment of this affection, general remedies must be given, as it is owing to some defect in the constitution, or a deficiency in the secretions: the pilula hydrargyri submuriatis composita at night, and the bark with soda twice or three times a day; or the compound infusion of gentian with soda and rhubarb. Locally, the emplastrum ammoniaci cum hydrargyro, or a solution of muriate of ammonia with alcohol, are proper. When suppuration is induced, the abscess should be opened, and the part poulticed. Generous diet and tonic medicines are also necessary. The glands in the axillæ will enlarge from sympathy, but subside with the cause.

The Lacteal or Lactiferous Swellings, are so called because they arise from a large collection of milk in one of the lactiferous tubes. They are caused by a chronic inflammation of one of the lactiferous tubes, near the nipple, by which its aperture is closed, and the tube obliterated to the extent of an inch or more. If this tumor is discharged, it soon fills again: when the distension is excessive, it sometimes ulcerates, and discharges the milk by a small aperture at a little distance from the nipple, which continues open through the whole period of suckling, the milk being lost.

The *treatment* of this tumor is simple. If the child is weaned, the secretion of milk will soon cease, and the milk already accumulated can easily be evacuated by a slight puncture. If the child still continue at the breast, the opening may be made larger, and the milk suffered thus to escape. This affection resembles the ranula.

Hydatid Disease of the Breast.—There are four species of this swelling in the breast, three of which are not, and one is, malignant.

The first species exists in the form of simple bags, containing a serous fluid. Sir Astley would term them cellulous hydatids. The following are their symptoms:

There is a gradual tumefaction of the breast, entirely free, at first, from tenderness or pain. It slowly grows for months, and even years. The largest seen by our author weighed nine pounds. It is not in general very large. It is at first solid, but afterwards a fluctuation is perceptible, first in one part, then in several portions of the breast. The cutaneous veins become varicose; but, as a general rule, these is no pain felt. The tumor is moveable upon the pectoral muscle, and is very pendulous. The whole mammary gland is sometimes involved. At length one of the fluctuating portions slowly inflames, ulcerates, and discharges a quantity of serum, and the sac being fully emptied, and the external opening closed, the fluid does not reaccumulate in a very long period, or, perhaps not at all. At other times a mucilaginous fluid is mixed with the serum, and the cells passing successively through the ulcerative process, form sinuses very difficult to heal. The general health suffers little. The absorbent glands are not affected.

Dissection discovers the glandular structure in its interstices, and the tendinous and cellular tissues connecting it, filled with a fibrous matter, the result of chronic inflammation. In some of the interstices a bag is formed, into which is secreted a serous or glary, or sometimes a mucous fluid, which, from its viscidity, cannot escape into the surrounding tissues; but by its quantity, pressure, and the gradual yielding of the bag, becomes very large. Vast numbers of these cysts occupy each part of the breast, and occasion an effusion of fibrous matter, by which the large tumor is formed. Within these bags of fluid are the hydatids, hanging by small stalks, or assuming the character of anasarcous swellings. Some of these hydatids are produced in clusters, but the greater part are distinct from each other. The size of these cells varies from the head of a pin, to that of a musket ball. We have already seen how it may be distinguished at first from other affections. In the second stage, the existence of several distinct seats of fluctuation, and the continued absence of pain, still designate it. If there is any doubt, puncture of the bag, causing an evacuation of clear serum instead of pus, will point out the disease. It has no darting or acute pains like the scirrhous tubercle, and the general health is unaffected. In one case, the last named disease was combined with it.

Treatment. Local applications are useless, and general treatment superfluous. When the enlargement is excessive, and a number of bags are present, the weight heavy, and the pendulous breast drags upon the neighboring parts, and the patient very apprehensive, it may be removed. The operation is a simple piece of dissection, in which every divided vessel should be secured, to prevent any great loss of blood. No cyst should be allowed to remain.

We have not room for the detailed cases. The following extract will describe the method of operating:

> "The first steps of the operation consisted in making a puncture into the tumor at its most prominent part, and discharging a quantity of serum from it; by which it was at once clear, that the disease was of the hydatid kind, and the magnitude of the swelling was lessened.
>
> "An incision was then made across the tumor, a little above its middle, and the flap of the integuments being raised, the upper part of the swelling was detached from the pectoral muscle, and with the handle of the knife, the swelling was farther separated, and a flap of skin being left below to meet that at the upper part, the operation was then concluded. Its removal was borne with great fortitude. Two arteries of great size required to be secured. The integuments were brought together by a single suture, and by adhesive plaster." P. 34.

The *second* species of hydatid disease of the breast is very curious, and cannot well be understood without an accompanying plate. In its external character it resembles the first species. Dissection alone will disclose its true character. The breast is enlarged, hardened by effusion of fibrine in lobes into the cellular tissue. It contains bags of serum and fluctuating cysts. In each of the cells there hangs a cluster of swellings like polypii, supported by a small stalk. The number of hydatids is very great. The size varies, but the largest is not greater than a barley corn. Their form is oval, and, when opened, they are found to be laminated like the crystalline lens of the eye. Extirpation is the only mode of relief.

The *third* species is the animal or globular, which consists of a bag containing a fluid which has no vascular connection with the surrounding parts, and produces within its interior a multitude of bags similar to itself. They are often met with in the liver, and in the lower part of the abdomen, between the rectum and bladder, where they will occasion retention of urine. They are also found in the omentum, ovaria, lungs, brain, and cellular membrane. They sometimes produce suppuration and ulceration, and are thus discharged.

The hydatid is contained in a cyst formed in the breast by adhesion; whenever it is deposited it excites irritation, and is soon surrounded by an effusion of fibrine highly vascular; its internal membrane is immediately applied to the hydatid. They exist *singly* in the breast. They are semi-transparent, have no mouth, are elastic, composed of two coats, of which the internal membrane appears to be uterine; for from its surface the hydatids grow. Sir Astley is induced to believe that they are distinct animals, because they have an existence of their own, without vascular connections; because they reproduce upon their interior surface their own species, and because in the brain of sheep a similar bag is formed, which enjoys motion after the sheep is killed. The globular hydatid is probably the link between vegetable and animal nature. The hydatid is deposited by the blood in the place where it grows, and wherever it reaches it causes the adhesive inflammation, by which its encasing cyst is formed. As in the former cases, when the hydatid becomes much enlarged, ulceration is the consequence.

The treatment of these tumors consists in making an incision into the cyst, and discharging its contents, after which a simple poultice will heal the wound; or it may be punctured, and the fluid evacuated; and, if it reaccumulates, a seton may be passed through it, and the sac will slough.

The diagnostic characters of this species are its central fluctuation, its solid circumference, and the absence of tenderness on pressure. It is not a dangerous affection.

Chronic Mammary Tumor.—This disease attacks young persons from seventeen to thirty years of age—occasionally those of a more advanced period. The constitution is not affected by it. The most general cause is the sympathetic influence of the uterus.

Its symptoms are—its growth from the surface towards the interior of the breast, its moveable condition, being attached by a portion of tendinous aponeurosis to the glandular structure of the breast, and not buried within the gland. It will sometimes, not always, cause some pain; neither is it tender to the touch. The growth is very slow, and the size is not large; from one to four ounces. Mr. Bond, of Brighton, removed one which weighed one pound and a half, and was only two years growing. Another case in Guy's Hospital weighed several pounds.

This tumor is not malignant, and will disappear spontaneously.

Upon a manipular examination of this swelling, it is found to be lobulated—composed of a number of lobes connected together, leaving depressions between them, and it always preserves this conglomerate character.

Dissection ascertains it to be contained in a bag formed of a similar fibro-tendinous structure to that which envelops the glandular part of the breast; and in proportion to the magnitude of the tumor does this envelop become more distinct. It grows from, is attached to, and moveable upon the gland. It is very minutely lobulated.

The treatment is general and local. The general consists in improving the constitution by alteratives and tonics. The local, in applying the emplastrum ammoniaci cum hydrargyro, if the diseased part be indolent; or the iodine ointment. If there be heat or pain in the swelling, evaporating lotions or poultices are proper. These tumors do not absolutely require operations.

It is important to designate such tumors, as those who labor under them are fearful of marrying. A first pregnancy and the suckling which succeeds it are most sure to remove them.

The operation, as we gather from the cases detailed, consists in an assistant's holding the tumor between his fingers, then the surgeon's dividing the skin over it, drawing it forth with the double tenaculum, and easily removing it with a portion of the breast.

Cartilaginous and Ossific Tumor.—A gelatine is sometimes effused in long continued inflammation of the breast, resembling that which supplies the place of bone in the fœtus. It becomes vascular, and resembles cartilage in its "yellow whiteness," its compactness, elasticity, and becoming the nidus of bone, as phosphate of lime is deposited. The following case illustrates the character and symptoms of this affection:

Mary Farmer, aged 32 years, applied to sir Astley for a swelling in her breast, which she had observed for fourteen years.

The pain in it was very severe; the skin which covered it felt very warm when compared with the surrounding parts: and it required the constant application of evaporating lotions to moderate its warmth. The tumor was excessively hard, very painful before menstruation, but greatly relieved after it.

Various applications were tried, viz. fomentations, poultices, and stimulating plasters, but they neither disposed it to absorption nor to suppuration, and as all the means employed to disperse it were quite unavailing, she was anxious for its removal.

The glands in the axilla being free from disease, as the complaint had existed for so long a period and her general health seemed to be perfectly good, I recommended the operation, as affording the only hope of cure.

Upon examination of the swelling after its removal, the larger portion of it had the appearance of that cartilage which supplies the place of bone in the young subject; the remaining part was ossific.

The Adipose Tumor.—Sir Astley has twice performed the operation for removing this swelling. In the first case it began at the posterior part of the breast, and grew between the gland and the surface of the pectoral muscle. In the second, all those lobes of fat which are interspersed between the different portions of the mammary gland, and which serve naturally to augment the size of the bosom, and increase its prominence, became enlarged, and formed a swelling which, prior to the incision being made, seemed to involve the whole glandular structure of the breast; but when the operation was performed, the different lobes of fat forming the swelling could be drawn away from the gland itself.

The large and pendulous Breast.—This affection is the result, not of relaxation, but of an absolute growth of the secreting lobes, which can be distinctly felt to be enlarged and hardened, and it is sometimes attended with considerable tenderness.

Some irregularity of the menstrual discharge usually accompanies this disease.

The local treatment consists in the application of a suspensory bandage from the back of the neck, under each breast, to produce artificial support. The constitutional treatment is to be directed toward restoring the menstrual function. For this purpose, the ferrum ammoniatum, the mistura ferri composita, and the carbonate of iron, combined with aloes, will answer best. Mercurials may be necessary to correct the deranged biliary secretion.

A hardening of the breast sometimes occurs in females who remain unmarried until thirty or thirty-five, and whose menses are generally defective. The means already recommended, together with the hip bath, leeches when there is pain, and the emplastrum ammoniacum cum hydrargyro, will effect its removal.

Scrofulous Swelling of the Breast.—In young women, scrofulous tumors will sometimes form in the bosom, confined generally to a single tumor in one breast. In one case two existed in one breast, and one in the other.

No pain attends these swellings; they are distinctly circumscribed, very smooth on their surfaces, and scarcely tender on pressure. They are very indolent, and vary with the state of the general system, diminishing as it improves, and enlarging with its deterioration.

The absence of tenderness, and the existence of other affections of a similar character in the absorbent glands of other parts of the body, will form the best distinguishing marks of the scrofulous tumor.

They are not attended with danger, nor do they degenerate into malignancy.

It would not be justifiable to use the knife for their removal. When, through our ignorance of their true character, they have been extirpated, they are found to be of a loose and curdy fibrine, very unequally organized, possessing vascularity in some places, and therein streaked with blood. In other parts they are of a yellowish white, approaching in appearance to suppuration, but remaining solid.

Treatment. A warm and dry atmosphere, an equally regulated temperature, tepid sea bathing, gentle and regular exercise, animal food which is the most easily digested, milk, a farinaceous diet, or that which is the least stimulating and most nutritious, will be the necessary means to restore the impaired constitution of the patient. Carbonate of iron and rhubarb, the hydrarg. cum creta with rhubarb, a grain of blue pill, and two or three grains of sulphate of quinine, the infusion of calumba with rhubarb and soda, will prove the most effective medicines; improving the digestion and the secretions generally, and strengthening the powers of the system.

Local treatment avails little. A stimulating lotion or plaster may excite absorption, after the health has been generally improved.

Irritable Tumor of the Breast.—This is a highly interesting affection, which has attracted the especial attention of the distinguished author, and was, as we believe, by him originally described.

An irritable state of the breast may arise without any perceptible swelling, or it may form an irritable tumor, composed of a structure wholly dissimilar to that of the gland, and which is therefore probably specific. It is apt to occur chiefly in young females from the age of sixteen to thirty years; it never occurs previous to puberty, but sometimes later than the above interval.

There is but little swelling perceptible, when the glandular structure of the breast is affected, but one or two of its lobes becomes exquisitely tender to the touch, and if it be handled, the pain continues for hours. The uneasy sensation extends to the axilla and shoulder, to the inner side of the elbow, and to the fingers; it also affects that side of the body as far as the hip. The patient cannot sleep on that side, and sometimes, from excess of pain, on neither side. Even the weight of the breast is sometimes intolerable. Sensations of heat and cold succeed each other in the part affected, and the pain resembles that of the tic douloureux. It sometimes induces nausea and vomiting. Before menstruation the suffering is augmented, during its continuance it is relieved, and it diminishes after the termination of that process. The skin is undiscolored.

In some cases a part only of one breast is affected, in others the whole, and sometimes both breasts suffer.

The duration of the disease is various, from a few months to several years.

Sometimes an irritable tumor is formed, distinctly circumscribed, highly sensitive to the touch, acutely painful at intervals, especially just before time of the menses, very moveable, often not larger than a pea, seldom exceeding the size of a marble. One tumor only is present in most instances. Occasionally there will be several. They never suppurate, but spontaneously cease to be painful and disappear.

"Upon dissection, they are found to be composed of a solid and semitransparent substance with fibres interwoven in it, but without any regular distribution; and I have not been able to trace any large filament of a nerve into them. They seem to be productions of the cellular membrane of the part, rather than of the glandular structure; and they are, therefore, met with in the cellular membrane of other parts of the body, accompanied with similar painful sensations."

The diagnosis of the irritable tumor is easy. The great pain, and tenderness to the touch, the anguish inflicted by manipulation, distinguish it from all other affections.

The irritable tumor is met with in persons of an irritable and warm temperament, who are very easily excited, and whose strength is diminished. The menstrual secretion is deficient, or morbidly abundant. Fluor albus is a very common attendant. The immediate or exciting cause is generally believed to be a blow, or pressure from some part of the dress.

The treatment consists in lessening the irritability of the system, abating the pain, and restoring the menstrual secretion. The best local remedy is a plaster of equal parts of soap cerate and extract of belladonna, or a poultice with solution of belladonna and bread.

Oil silk worn upon the breast, or hare skin, or some other fur, by the perspiration which it excites, aids in soothing the local irritation. When the pain is severe, leeches may be applied—but they generally produce debility, and, of course, increase irritation.

Calomel with opium and conium should be given for a time with laxatives. To lessen the irritability, the following recipe is recommended by sir Astley:

℞ Extracti conii,
Extracti papaveris aa gr. ij,
Extracti stramonii,
e seminibus gr. ss,
M. ft. pilula.

This pill may be given twice or three times during the day. Sometimes the stramonium is too powerful, when half the quantity will suffice.

The preparations of iron, before recommended, combined with aloes, and the hip bath of sea water, or an artificial salt water bath from 100 to 105°, will restore the uterine secretion.

Ecchymosis of the Breast.—To the affection last described, there is another closely allied, namely, a morbid appearance of a bruise on the breast, occurring at each menstruation, and accompanied with exquisite sensibility, pain, and tenderness.

Symptoms. It occurs in girls under twenty-two years of age, and is preceded by severe pain in the breast and arm. The extravasation of blood begins a few days before menstruation, and it appears principally in a large spot, as if a severe blow had been inflicted. Smaller and less vivid spots are observable on other parts of the breast. The part is very tender to the touch, and the pain passes down the arm to the ends of the fingers. A week after menstruation it disappears, excepting in very severe cases, when it continues till the next period. It is an evident effect of the sympathy between the uterus and the mammæ.

This affection is entirely unattended with danger. The treatment is obvious, and need not be detailed.

The sulphate of iron has been successfully used by sir Astley.

Our task is finished, and in proportion to the small share of credit to which we may lay claim as the humble analyst of the statements of others, do we hope our labor may prove useful to those for whose benefit it is intended.

MEDICAL EXTRACTS.

NO. II.

Vapor Bath among the Indians.—Mr. W. E. Cormack, in the report of his journey in search of the Red Indians in Newfoundland, made in 1828, observes, in speaking of one of the villages, "We discovered here, also, the remains of a vapor bath. The method used by the Bæothicks (Red Indians) to raise the steam, was by pouring water on large stones made very hot for the purpose, in the open air, by burning a quantity of wood around them; after this process, the ashes were removed, and a hemispherical frame work, closely covered with skins, to exclude the external air, was fixed over the stones. The patient then crept in under the skins, taking with him a birch rind bucket of water and a small bark dish to dip it out, which, by pouring on the stones, enabled him to raise the steam at pleasure.

"Since my return, I learn from the captive Red Indian woman, *Shawnawdithil*, that the vapor bath is chiefly used by old people and for rheumatic affections."—*Jameson's New Edinburgh Philosophical Journal, No.* 12.

Island of Corfu.—This is an anchorage where a good deal of fever occurs in the hot months; and I have witnessed its prevalence for several years. In this season the winds are light, or calms prevail; and at night the dews are generally very heavy. When the winds blow, it may easily be observed, from the nature of the surrounding localities, that they will imbibe febrific exhalations. To the northwest, and in the line of the greatest extent of the island, there is a good deal of wood, many ponds of stagnant water, and some marshes, the exhalations from which, in hot weather, must give a malarious influence to the winds passing over their surfaces. The above is also the direction whence the land breeze in the night reaches the anchorage; and I have then perceived the same fetid smell accompanying the first of the evening breeze, which I have experienced at Port Royal, Jamaica, at Messina, and off the Italian *fiumares.*

As to the *modus operandi* of these land breezes, impregnated with marsh vapor, it is difficult to say whether they act by suddenly re-pressing the perspiration, from their being charged with humidity, and of a relatively low temperature, or by depressing or impairing the nervous energies in the same manner as the sirocco does; or whether they may even operate in both ways on the animal system. It is, moreover, well known that fever is more often developed in the night time, or in the evening, when the energies of the body are most exhausted from labor, fatigue, and the excitement of a hot day; while I have particularly remarked that its invasion in this climate is always declared by symptoms of exhaustion and depression. These are syncope, sudden failure of muscular strength, and disturbance of the reparative functions, with the expulsion upwards or downwards from the primæ viæ, of what the organs cannot digest or assimilate. The adynamic state of the moving power is observed in the pallor of the surface and the depressed state of the pulse. During the summers in which I have seen fevers prevalent at this anchorage, southerly and southeast winds occurred by day, and at night it was either calm with heavy dews, or else it was a land breeze possessed of the qualities above mentioned. The other localities of Corfu, if not unfavorable, possess no entire exception from the unhealthy impregnations which they impart to winds arriving at the anchorage. From the eastward there cannot be any cool sea breeze by day in the summer months; as the expanse of sea is only seven miles between the island and the bare, parched land of Albania, while the greatest surface of sea is down the channel, which lies in a southeast and southerly direction, whence the breezes are warm, moist, and relaxing.—*Black on the Climate of the Mediterranean, in Jameson's New Edinb. Phil. Journal, Vol.* 5.

Algiers.—Though the plague rages sometimes at this place, yet its natural situation keeps it free from any endemial causes of sickness; and it may be reckoned a healthy place, owing to the high land to the southward tempering the heat and dryness of the winds of the desert. All winds here from east, through north to west, are damp or foggy in the summer season.

In August, 1824, an interesting coincidence between the appearance of nineteen cases of febrile commotion and a sudden change of wind, took place off Bona, in the Euryalus frigate. The previous winds for some days had been moist and from the northward, when they were interrupted for two hours by a strong sirocco, accompanied by a great rise of temperature; and so dry was the wind, that any thing moist or damp dried in it as quickly as if it had been exposed to fire. The marked attacks of fever were almost simultaneous with the sirocco, and they disappeared in a short time from the use of gentle depletion, and with the quickly succeeding change of the weather.—*Ibid.*

Arabian mode of curing Fractured Limbs.—The Orientals will never consent to have a limb cut off. Their practice is to lay the limb upon an oiled mat, after reducing the bones, and then enclose it in a case of gypsum, or plaster of Paris, an operation which they perform much in the same way as is practised by statuaries to take the cast of a limb. They first pour the plaster of Paris under the limb, until it rises to such a height as to touch the whole lower surface, filling up all inequalities so as to form a sort of bed, placing, at the same time, a few hollow reeds, at proper distances, and in such positions as to serve to conduct away through the plaster any fluid that might collect in the gypsum case from the wounds. When this becomes firm, which it does in a very short time, the limb is next covered with the same plaster of Paris, so as to enclose it completely, and, on hardening, to form a light case, or plaster boot, to keep the parts in as natural a position as possible. They next make a sort of furrow, or channel, in the soft plaster, on the upper surface, to receive such vulnerary fluids, during the treatment, as they think conducive to the cure, and which filter through the gypsum to moisten the leg at pleasure. To render this upper shell more easily removed or changed during the cure, if necessary to examine the state of the parts, &c., they make deep incisions into the soft plaster both lengthwise and across, though not quite through, by means of which the upper case is removed without disarranging the limb. The firmness of the lower part, or bed, makes the removal of the whole boot practicable, should such a measure at any time be found expedient.

It will be remembered that baron Larrey has lately practised a somewhat similar mode of treatment for fractured limbs, with much success. The baron does not make use of a case of plaster of Paris, but surrounds the limb with bandages which have been soaked in some glutinous matter, which forms nearly as firm an envelop as plaster of Paris.—*Brande's Quarterly Journal of Science, New Series, No.* 9.

The Plague.—Egypt was still open to us, and though the communication between Constantinople and Alexandria had been uninterrupted, that country had hitherto continued in a state of perfect exemption from the contagion. There is something inexplicable, and that one might be disposed to call capricious, in the way in which this dreadful disease spreads from one country to another, and we had been particularly struck with the observation of the Greek who acted as English Consul at Scio. Though within a few hours sail from Smyrna, where numbers were dying daily of the plague, he had no fear of its approaching the island; and during our stay of some days, we saw many Turks, who had come directly from that place, leap on shore without any interruption. "But," added the consul, "should the plague declare itself at Alexandria, (distant some hundred miles,) we shall certainly have it at Scio." He spoke confidently, and quoted many instances within his own memory of the like coincidence.

At Rosetta, (where the plague was raging,) for the first ten days we avoided as much as possible all intercourse with the inhabitants of the town, but did not confine ourselves entirely to the house, resolving to shut ourselves up when the number of deaths should amount to twenty daily. That period soon arrived, and the contagion continued to spread, though the rising of the Nile, and St. John's day, about which time the symptoms of the plague are usually expected to abate, were fast approaching.

As soon as we had taken our resolution, and our doors were closed, major Vincenzo Taberna, who had frequently witnessed the ravages of this formidable disease, and who was consequently quite *au fait* at the necessary precautions, took upon him the management of our voluntary confinement.

The house we occupied had double doors, and in the space between them, we placed two very large jars filled with water, which was charged once in the twenty-four hours; and having provided ourselves also with a fumigating box, to receive all our letters, we hired an Arab for a piastre a day, to station himself every morning under our windows, receive our orders, and purchase our provisions.

With respect to our bread, we took the precaution of never touching it till it was cool, as it is ascertained that in that state it does not communicate the plague. Even letters which have been fumigated must be allowed to cool before they are touched.

Our meat, whether beef or fowls, the latter being previously plucked, was all thrown into the water jars, from which, after a certain interval, it was cautiously taken out by one of the servants, who opened the inner door for the purpose. In this manner, we lived for several weeks, witnessing the most distressing signs of death and disease under our windows, from which we had frequent opportunities of seeing attacks of the plague, as it first seized upon its unfortunate victims. As far as we could judge from their gestures, they suffered most violent pains in the head, and were at the same time seized with violent retchings and black vomiting.

We lost three of the Arabs whom we had engaged to act as our purveyors in the town. When the mortality was at its height, the number who died daily amounted to about eighty.

It was impossible, however, to include in our measures of safety, the few English soldiers who were employed, together with about fifty Arabs, in looking after the horses piqueted in the camp without the town, but the judicious directions of their officers, and the ready obedience of the men in avoiding every occasion of touching either the native servants, several of whom died, or the horses of which they had the immediate care, saved them from any infection.

The exemption of the British soldiers from the attacks of the disease, is an additional instance in support of the opinion that the plague is only to be communicated by actual contact, for they were exposed to the same atmosphere, and to the action of the same general causes, as the less fortunate natives, who, like themselves, were employed in the care of the horses.

At one time, more than two thousand of the population of Rosetta were said to be ill of the plague, of whom the greater number did not confine themselves to their houses, but were seen walking about, to the great danger of the rest of the inhabitants. The Arabs and Turks, having no fear of the contagion, are in consequence always ready to lend every assistance to their sick friends, and it is, perhaps, partly to be attributed to this cause, that a greater number of Mahometans recover than Europeans; the latter being generally deserted by their countrymen. The fearlessness of danger, and humane attention of the natives, occasion, however, a great spreading of the contagion, to which the custom that prevails among them, for the nearest relation to wear the clothes of the deceased, in the last duties paid to his memory, does not a little contribute.

We heard of no remedy for the plague: when the swellings broke, sea bathing was supposed to be very beneficial; but, after that event, the patients generally recovered without any remedy.

We found the opinion that the disease ceases on the 24th June, (St. John's day,) prevalent among the Franks as well as the natives of the country.

The Europeans, settled at Cairo and Alexandria, would not open their houses before that time, when they began to have cautious communication with their neighbors. This period, however, which had been so eagerly anticipated, and whose approach was hailed by the lighting of several bonfires in different parts of the town, did not, on this occasion, answer the general expectation; but, on the contrary, was marked by an unusual mortality, as the deaths on that day exceeded a hundred, a number considerably beyond the usual average.

Much beneficial effect is also attributed to the *Nokta*, or rising of the Nile, which begins on the 18th of June. Previous to this month, the Kamsin, or wind of the desert, which commences generally on Easter Monday, and continues to blow for fifty days, together with the stagnant state of the waters of the Nile, are supposed to occasion the unhealthiness generally observed to prevail at that sesson. So confirmed is this idea, that the Arabs are in the habit of congratulating one another, at the end of the Kamsin, on having escaped its baneful effects.

The two or three months previous to the summer solstice, are reputed so unhealthy, that the plague is said to exist in Cairo always during that period; at which time, also, the smallpox is very fatal.

When the natives are seized with the first symtoms of the plague, they wrap themselves up in their cloaks, and endeavor to promote perspiration by drinking large quantities of warm water. In a short time, swellings break out in the groin, and under the arm; and if they are alive thirty-six hours after the first seizure, they generally recover. We saw a Turk, at Alexandria, who had suffered several attacks of the plague, and he informed us, that as soon as he was able to move, he crawled to the sea side, in which he constantly bathed.

Neither iron nor wood convey the infection, though money is supposed to do so; a circumstance, perhaps, to be attributed to the custom that prevails among the natives of carrying it in a small bag, worn close to the skin. In this situation, it is certainly more likely to imbibe the matter of contagion secreted on the surface of the body; but whatever may be the cause, we always took the precaution to allow our money to remain in the water, at least half an hour, before we touched it.—*Narrative of a Journey in Egypt, in* 1812, *by Thomas Legh, M. D.*, pages 17, 176, &c.

Process of Emasculation.—The slaves collected by the jelabs, or slave merchants, from the interior of Africa, suffer great hardships in the course of their long and tedious journey to Egypt; and we were informed that the jelabs seized upon these periods of distress, arising from a scarcity of water or provisions, to perform the operation of emasculation, which, according to our informant, was done completely by the entire removal of the genitals. The wretches were afterwards buried in the sand to a certain depth, and in this rude manner the hemorrhage was stopped. The calculation was, that one out of three only survived the operation, which was performed at a moment of distress, that the risk of mortality might be incurred at a time when the merchants could best spare their slaves.

An eunuch was estimated at fifteen hundred piastres.

Girls, whose virginity was secured by means more powerful than moral restraint, were estimated at five hundred piastres; but such is the degradation to which the human species is reduced in this country, that the precaution serves only to produce abuses of a more revolting nature.—*Legh's Travels in Egypt*, p. 59.

Ophthalmia and Syphilis in Egypt.—During our residence here (at Miniet in Upper Egypt) we had an opportunity of observing the method practised by the natives, when they are attacked by the ophthalmia of the country, and which is simply as follows: When an Arab feels the first approach of inflammation, he binds a handkerchief round his eyes as tightly as possible, and endeavors to exclude the light and air with the greatest caution. At the end of three days and nights, the bandage is removed, and frequent bathing with cold water is afrerwards employed to complete the cure.

My servant suffered considerably from an attack of the ophthalmia, and found great relief from a small quantity of excessively fine powdered sugar being introduced every night between the eyelids; a practice recommended to him by a Greek doctor, whom he had consulted at Siout.

In his case, the inflammation was excessive; and he compared the great pain he suffered, to the pungent sensation occasioned by the eyes being filled by the smoke of burning wood.

As I have mentioned one of the diseases of Egypt, I may add that the symptoms of syphilis are, in this country, extremely mild; and are generally cured by the simple use of the warm bath, and an attention to cleanliness, which is not at other times so strictly observed by the natives.—*Ibid.* p. 167.

QUARTERLY INTELLIGENCE.

FOREIGN.

ANATOMY AND PHYSIOLOGY.

Experiments relating to the Reproduction of the Crystalline Lens. By MM. Cocteau and Leroy d'Etoille.

The means which nature employs are not often used to assist the loss which the eye receives by the extraction of the crystalline lens. Authors, for the most part, are silent on this subject; and those who have fixed their attention to it positively deny the reproduction of the lens. Thus Haller, in his "Elementa Physiologiæ," says that the lens, being a solid, cannot, like the humors, regenerate itself: "Lens cristallina fabricam sibi propriam solidam habeat neque humoribus debet accenseri, neque amissa renascitur."

The dissection of an eye deprived of its lens, says M. Tartra, presents remarkable appearances; at first the depression of the vitreous body, which corresponds to the posterior segment of the lens, is not replaced by any new body; the vitreous humor fills the space which it occupies; the capsule of the lens does not exist—it is removed by absorption. *(Thèse présentée au Concours de* 1811.*)* Already Tenon has announced this fact: "Cristallini fossula ab humore vitreo in ejus locum secedente repletur." Wishing to know if the observations or the assertions of the authors cited are correct, we have practised experiments on different animals, and have obtained results quite different to those which they have announced. We will not examine if this difference is because the researches have been made on eyes operated on in a perfect state, while in the other they have been made on eyes operated on, on account of cataract; we will relate only the results of our experiments; their accuracy may easily be verified by similar experiments.

MM. Cocteau and Leroy d'Etoille performed six experiments, by extracting the lens; and in all the cases, they found, in one or the other eye, traces of formation of a new lens. We give their last experiment as an example.

"On the 6th of June, 1825, we performed the operation of cataract on the eyes of two rabbits. After the lapse of a month, both could see very well; but through some accident one was killed, without our having an opportunity of examining the eyes. The other was kept till the 18th of November, (i. e. more than six months,) when the examination of the eye was made in the presence of M. Fodera. The crystalline capsules were perfectly transparent; no cicatrix whatever could be observed; they contained lenses of a moderate size, and of as firm a consistence as those that we extracted. In order to acquire more certainty as to their nature, we plunged them into boiling water, and saw them immediately become opaque, hard, and friable, like the primitive lenses; merely the arrangement into bright lamellæ was only evident in the eccentric lamellæ."

From the experiments which we have just mentioned, it evidently results that the lens may be reproduced. But this fact, not known, or forgotten up to this day, gives rise to other questions. That the lens is reproduced, is it necessary that the eye should be in a perfect state to the moment of extraction? The lens being removed on account of cataract, is it replaced by another? The persons who, after the operation for cataract, could see without the aid of convex glasses, do they owe this faculty to the formation of a new lens? Will the lens continue to be classed among the living solids, or can this property of reproduction be likened to the other humors of the eye? We will content ourselves at present with proposing the questions, and will defer answering them till we have gathered sufficient facts to enable us to form an opinion.—*Jour. de Physiol.*

Case of Superfetation in a Single Uterus.—Dr. FAHRENHORST, of Justerburg, in Lithuania, relates the case. A woman forty-two years old, became pregnant for the second time, in September, 1825. Two years before this, she had borne a son—and enjoyed perfect health, and never menstruated during this interval. On the 28th of April, 1826, this woman felt something descend into the vagina; and supposing herself to be attacked with prolapsus, sent for E——, a midwife of the town. She found that it was a fœtus enclosed in its membranes, and prescribed rest. On the same day, about noon, this fœtus was brought into the world, with all its membranes, and without any sanguineous discharge. After its escape, the midwife perceived that there was another set of membranes; and the mother said she felt some motion within the uterus. At one o'clock of the next night, the pains commenced, and she brought forth another fœtus, living, but very little advanced, and surrounded only by a single membrane. Dr. Fahrenhorst was immediately informed of the circumstance, and, proceeding to the spot, ascertained the above related facts. This fœtus, which he considers as a four months' one, was four inches in length. The members, which had no nails, might be easily distinguished; and the head presented the ordinary disproportion relatively to the trunk. The first child was a nine months' one, and lived.—*Archives.*

Magendie's Remarks on the Brain.—These remarks were read at the Royal Academy on the 16th June last.

Of the cephalo-spinal fluid, the discovery of which by M. M. has already been mentioned in this Journal on several occasions, he says that he has now ascertained that its quantity in a middle sized man averages about three ounces; women, all other things being equal, have a larger quantity.

The quantity is greater in old men, and may even amount to seven or eight ounces; but it is uncommon in such circumstances not to find some weakness of the intellectual faculties.

This fluid surrounds the whole brain and spinal marrow; and the stratum is of various thickness in different situations; in the neck it is four or five lines; in the loins, more than an inch; around the brain it is commonly one or two lines, and in certain cases and situations nearly an inch.

Among other very singular observations, we beg leave to call the attention of our readers to the following. This distinguished physiologist asserts that the brain is not always of an invariable size in the same individual; but, like the muscles and other parts of our frame, is subject to great diminution in sickness; and that the place yielded by the lessening brain is occupied by this cephalo-spinal liquid. He says that he has had many opportunities of satisfying himself that, in cases where a person has had a permanently contracted or immoveable limb for several years, a portion of the brain has disappeared, to the amount of a fifth or fourth part of a cerebral lobe, its place being occupied by a great hollow filled with the cephalo-spinal fluid; so that the cranium was always full. The object of the fluid seems to be to keep up a uniform degree of pressure on the brain and spinal marrow in all the varying circumstances of those organs; a pressure which, in consequence of the hardness and inflexibility of their coverings, could not be otherwise effected.

M. M. informs us that he had an old fox; which, having been caught in a net, was in good health, and exceedingly cross and disposed to bite. By means of an opening made in the back of its neck, he permitted all its cephalo-spinal fluid to escape; the effect of which was that the animal immediately became calm and quiet. M. M. now untied him, and let him loose in the garden; but he lay down on the place, and did not stir till the next morning. In the course of the day he began to move about a little; and, in thirty-six hours, regained his snappish and wild disposition. He now made a puncture again; and satisfied himself that the cephalo-spinal fluid had been entirely restored.

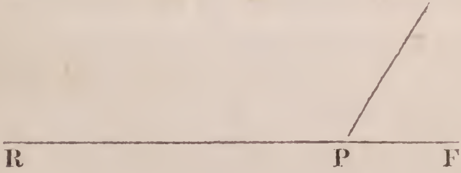
Distilled water, of the temperature of the animal, produced the greatest distress when thrown into the cavity after permitting the natural fluid to run out; the disturbance occasioned by it always ceased as soon as it was withdrawn.

When the fluid, after being withdrawn and cooled, was reinjected, the animal was seized with a general trembling, analogous to that which precedes a paroxysm of intermittent fever.

From all these experiments, he thinks himself warranted in the conclusion, that the cephalo-spinal fluid influences the functions of the nervous system, 1st, by contact with the surface of the brain and spinal marrow; 2d, by its chemical nature; and 3d, by its temperature—and that thus this fluid is entitled to take rank along with the blood, lymph, &c., in consequence of its utility in the animal economy.—*Journal de Physiologie.*

Rainey on the Changes of the Lower Jaw, as accommodated to different periods of life.—It may be advanced as a maxim in physiology, that nature, solicitous to preserve the integrity of the body, institutes certain alterations of form and structure, admirably adapted to encounter the necessities and exigencies of the various periods of existence; and that she manifests the greatest care in the preservation of those organs which are most intimately connected with the maintenance of life. As decrepitude approaches, we see her, by a gradual succession of changes, surrendering the body to the irresistible encroachments of time and decay. First, that elegance in the appearance, and exactness in the form, which characterize the plenitude of corporeal perfection, becomes gradually defaced and destroyed; secondly, the motions which were previously performed with alacrity, and capable of long continuance, become tardy, feeble, and of shorter duration; thirdly, the derangements which are manifest in the nutritive functions concur in announcing the approach of dissolution; and, lastly, the annihilation of the more vital powers, as those of the heart and brain, complete the final purpose. To demonstrate the justness and probability of the foregoing assertions, I think I can produce no better example than the changes which advancing age produces in the form of the lower jaw.

The lower jaw acts upon the principle of a lever of the third order, the properties of which are as follows: Suppose the line R F to represent a lever of this description; the power P required to overcome the resistance, R, must exceed the resistance as the distance from R to P exceeds the distance from P to F. For example: if the resistance R be equal to one pound, and the distance from P to F be eight times less than that from R to P, it will require rather more than eight pounds to overcome the resistance R. The disadvantage of this kind of lever is, that velocity must be sacrificed to power, or *vice versa.*



In the adult jaw, the distance from the power to the fulcrum is very inconsiderable; consequently, the masseter and anterior fibres of the pterygoid and temporal muscles act under a great disadvantage, as respects the power they can exert; but this is compensated by the increase of velocity, a circumstance highly desirable in the middle period of life. In the jaw bone of the child in whom the motions are not necessarily rapid, but comparatively forcible and of long duration, the angle formed by the horizontal and ascending rami is more obtuse. This occasions a considerable removal of the fulcrum from the power, and consequently furnishes a much more advantageous position for the attachment of the then feeble muscles which elevate the jaw, by enabling them to act with greater power and a more protracted effort. In old persons, the angles of the jaw are advanced, causing an alteration in its form similar to that which has been noticed in the infant. This must materially augment the force which the muscles, then weakened by age, are capable of exerting. In this case, the sacrifice of velocity can scarcely be considered a disadvantage, as it is only consonant with the general decay of the body. I think the example here adduced will present a more striking proof of the wisdom and design of nature, when the great importance of the motions of the jaw in the function of nutrition, almost equally necessary at every period of life, is contrasted with the efficient and beautiful manner in which nature has accommodated it to the existing circumstances of the system, by endowing it with mechanical advantages for the exercise of power, proportioned to the enfeebled condition of its muscles and the decay of the teeth; the necessary consequence of that destructive process which awaits all organized matter.—*Lon. Med. Gazette.*

Guthrie on the supply of Bodies for Dissection.—The following plan is proposed under this system, and I would recommend the supply of dead bodies for public dissection to be derived from the following sources:

1. All persons hanged, or otherwise executed, and for all offences whatsoever.

2. All persons who die under sentence for criminal offences, whether in the hulks, jail, penitentiary, or elsewhere.

3. All persons who die in temporary or floating hospitals, in jail, penitentiary, or other place of detention, or prison, from whatever cause they have been placed there, and who have no friends to bury them.

4. All persons found dead, from whatever causes, in highways, canals, or otherwise, and who, having no friends to bury them, are sent to bone houses for interment, at the expense of the parish or county.

5, and lastly. The poor who die in workhouses, having no friends to bury them, having expressed no wish on the subject, and having no respectable or decent relatives to express it for them, either before or after death.

It is not proposed to interfere by regulations with the bodies of those who die without friends in regularly established hospitals; it being presumed that the surgeons of those institutions will properly apply them in the instruction of the students committed to their charge. In other words, it is not intended that the public schools of anatomy shall interfere with the private or public instruction delivered by surgeons in their own hospitals.

The means of supply being furnished, the following regulations are proposed, to ensure a fair and regular distribution, which must be enforced, in one way or other, by legal enactment. It being understood that there are no laws on the subject to repeal, save that one, or part of one, which directs murderers to be hanged until dead, "and their bodies to be given over for dissection," and for the reception of which bodies the College of Surgeons is bound, by their charter, to find a proper place, which is at present in the vicinity of Newgate.

Laws proposed to be enacted.—1. Punishing all persons actually engaged in exhumating or stealing a dead body, or in selling it without authority, and who can be proved to have been so engaged after this session of parliament. For the first offence, six months to hard labor, and to find two securities, in fifty pounds each, for future good behavior; to be kept to hard labor until procured. For the second offence, double the punishment. Medical or other persons knowingly receiving such dead bodies, three months to the treadmill, and a fine of one hundred pounds; to be kept to hard labor until paid.

2. Rendering the practice of dissection, and the possessing of dead bodies, legal; and protecting the persons so employed, and their property, by the same laws as protect persons and property generally.

3. Directing the five sources of supply of dead bodies.

4. Declaring it to be illegal to require or to take during life, in any hospital, workhouse, or other place for the reception of sick, or poor people, securities in money or otherwise for the burial of such persons. Penalty, twenty pounds.

5. Declaring it legal, and directing all treasurers, governors, trustees, or others in authority, in hospitals or other places; and all vestries, church wardens, overseers of the poor, and others in authority, in the parishes, to give over for dissection to the College of Surgeons, or persons appointed by them, the bodies of all persons who have died, under their care or charge, without the means of burying them, and who have no relatives or persons previously known to have been friends, who are willing to do it; and all other bodies in their charge which come within the meaning of classes four and five, of the means of supply indicated.

6. Appointing the Royal College of Surgeons of London, by their secretary, or other person nominated by them, the proper authority or authorities, to whose order the bodies are to be delivered.

7. The Royal College of Surgeons to report quarterly to the secretary of state for the home department, on every point connected with this subject.

8. The funeral service to be read over all bodies (unless forbidden by law) before delivery for dissection.

9. Legalizing the sale of a dead body by the friends of the deceased, after it has been viewed in the usual manner by the parish or other authorities.

10. The council of the Royal College of Surgeons, in making regulations for the proper distribution of the bodies placed at their disposal, to find a proper cemetery in various parish churchyards for the interment of remains after dissection; and the council of the College to be authorized to make such charge for each body as may be considered proper; subject to the approval of the secretary of state for the home department.

11. All minor regulations of arrangement and detail made by the council of the Royal College of Surgeons, and approved by the se-

cretary of state for the home department, to be binding on the different persons concerned. Penalty, twenty pounds.

12. Every dispute which may occur, and every offence to which a penalty is attached, to be settled, by information laid in the usual manner, before any three police magistrates of the division in which the offence has been committed; and whose decision shall be final.

In order to enable all parties to act with precision, and a due regard to decorum, the following minor arrangements are proposed, under the authority of the secretary of state, to be varied from time to time, by his sanction.

The council of the Royal College of Surgeons, having the collection and distribution of all dead bodies intended for dissection, directs,

1. An establishment of men, four or eight in number, to be ready for service every evening in the winter season from six to ten o'clock, and to proceed as directed with a shell (in a manner similar to that at present adopted by undertakers) to the spot where the body is to be found.

2. An establishment of one or two plain hearses, with two horses, a driver, and an attendant, in black, (like an undertaker's party,) to be ready to go to greater distances.

3. The secretary, or proper officer appointed by the college, gives an order for the delivery of the body, which will be the receipt to the person who delivers it.

4. The servant of the College who receives the body, delivers it again, according to an order received to that effect from the secretary; and the anatomist or gentleman who receives the body from him, gives an acknowledgment, signed by himself or his assistant. —*Medico-Chirurg. Review.*

Experiments on Cutaneous Absorption. By Dr. WESTRUMB.—*Exp. I.* Dr. Westrumb, having prepared a bath of the temperature of from 20° to 22° of Reaumur, containing a grain of hydrocyanate of potash, two grains of nitre, and some grains of musk, he placed his arms in it as high as the elbows, and kept them there for three quarters of an hour. The bath having then been removed, the doors and windows were opened to change the air of the room; nevertheless, the odor of musk was manifest in the pulmonary exhalation of the experimenter. He voided his urine immediately after the use of the bath, and at one hour, five hours, and thirteen hours subsequently. The urine passed after the first hour, exhaled a feeble odor of musk. Two specimens were taken of each portion of urine, one to be treated with tests of hydrocyanate of potash, the other for those of nitrate of potash. The presence of the prussiate was distinctly visible in the first specimen, in the second there was no evidence of the existence of nitre.

Exp. II. Was a repetition of the preceding experiment, the author enclosing his mouth and nose in a tube, one end of which passed out of the room, the whole so contrived that he breathed only the external air. After the experiment, the pulmonary exhalation was impregnated with the odor of musk, but not so strongly as in the first experiment. This odor was not perceptible in the urine passed a short time after the experiment; but the hydrocyanate of iron was very perceptible in it; nitre could not be discovered in it.

Exp. III. Was a repetition of the preceding experiment, and with the same results, but the experiment was not as carefully made.

Exp. IV. This was a repetition of the two preceding experiments. Every care was taken, and the experimenter continued to respire by the tube for a long time after the experiment. The results were the same as before, only the odor of musk in the breath was less, and disappeared sooner.

Exp. V. The tube being applied to the mouth and nose, the experimenter placed his arms, as far as the elbows, in a bath of a strong decoction of rhubarb; and had one of his legs rubbed with opodeldoc. He continued his arms in the bath an hour and a quarter. After the first quarter of an hour, the breath had a decided odor of camphor, which increased during the experiment, and was perceptible for six hours afterwards, but feebly. The urine passed a little while after the experiment, and that which was voided at the end of three hours, was of a reddish brown color, when a solution of potash was added. This color is attributable to the presence of rhubarb, for the same solution of potash mixed with urine passed *before* the experiment, did not cause a similar change of color. It cannot be said whether the camphor also passed into the urine, though the odor of that collected immediately after the experiment was essentialy different from that passed before the experiment.

Exp. VI. Two vesicatories, each the size of a crown, having been applied to the legs of a healthy laborer, who had previously taken a bath to cleanse himself, the lymph was evacuated, and cupping glasses placed over the sores made by the blisters. The man then took a pediluvium, of 20° Reaumur, containing hydrocyanate of potash, and the temperature of which was kept the same during an hour and a half. At the end of this period, the vesicatories had discharged much; but two hours afterwards, sufficient lymph had collected to enable a chemical analysis of it to be made. The small quantity of lymph collected, having been diffused in distilled water, was treated with a solution of hydrochlorate of peroxide of iron; the liquid assumed a light bluish green color, a certain sign that it contained hydrocyanate of potash; and proving that this had been absorbed. The analysis of the portions of urine voided one hour, three hours, and five hours after the bath, confirmed also this fact. They changed, on the addition of a solution of salt of iron, a beautiful blue color, which was most intense in the portion passed three hours after the bath. The subject of the experiment would not consent to be bled, so that the blood could not be analysed.

Exp. VII. A healthy and robust man continued an hour and forty-five minutes in a foot bath of 22° Reaumur, containing a strong solution of prussiate of potash. The man voided his urine a little before the experiment, and also at two, seven, and eleven hours after the bath; the urine passed the second hour, on being treated with the hydrochlorate of iron, assumed a fine blue color, which showed itself more slightly in that passed at the seventh hour, and was scarcely perceptible in that passed at the eleventh hour. Some ounces of blood were obtained from this subject, by means of scarifications and cups to the thighs. The clots of blood being treated at first with a little nitric acid, were diffused in distilled water, and then submitted to the action of hydrochlorate of iron; it seemed to contain some slight but indistinct vestiges of hydrochlorate of potash.

Exp. VIII. Four ounces of blood were taken from the arm of a person who had remained two hours in a foot bath, of from 20° to 22° Reaumur, in which had been put half an ounce of hydrocyanate of potash, and two ounces of nitre. This blood contained evidently hydrocyanate of potash; as to the nitre, its presence was not distinctly evident. The urine contained the hydrocyanate of potash.

Exp. IX. A person introduced his arms as far as just above his elbows, into a bath containing a decoction of rhubarb; on withdrawing his arms from the bath at the end of an hour and a half, they were scarified, and cupping glasses applied to them, by which means some blood was obtained. This blood being diffused in water, and treated with a solution of potash, assumed a deep brown color. The same change of color, indicating the presence of rhubarb, took place in the urine passed a little while after the use of the bath.

Exp. X. After having opened, emptied, and covered with cupping glasses the vesication produced by blisters in a healthy man, his feet were placed for an hour in a bath composed of a saturated docoction of rhubarb. About a grain of lymph was collected in each cupping glass; this lymph, as well as the urine, contained rhubarb.

Exp. XI. The hind legs, and the greater part of the body of a dog, was shorn close, great care being taken not to injure the epidermis. The animal was afterwards held for half an hour in a bath of 20° Reaumur, to which had been added a saturated solution of hydrocyanate of potash. The dog having been strangled after the experiment, the blood of the vena cava, the urine of the bladder, the chyle of the thoracic duct, were collected, and the lymphatic ganglions of the groin. The prussiate of potash showed itself very distinctly in the blood, but not in the chyle of the thoracic canal, or in the inguinal glands. On dropping a solution of hydrochlorate of peroxide of iron on the adipose panicle, here and there a bluish green color was produced.

Exp. XII. Another dog was deprived of its hair in the same manner, and frictions made on the shorn parts, with a weak tincture of cantharides, until the skin assumed a red appearance; the animal was then immediately placed in a bath similar to that used in the preceding experiment, in which it was also kept half an hour. The presence of hydrochlorate of potash in the blood of the vena cava, and in the small quantity of urine found in the bladder, was distinctly observed; it showed itself also in the chyle of the thoracic duct, and in the lymphatic glands of the groins; and the whole of the internal surface of the skin of the hind limbs and of the abdomen assumed a fine blue color.

Dr. Westrumb draws from these experiments, as well as other facts, physiological, pathological, and therapeutic, the following conclusions:

1st. The skin is endowed with an indeterminate faculty of absorption; it can admit and introduce into the circulation all sorts of substances, from the least to the highest degree of fluidity, provided they are soluble.

2d. Some irritating substances which break or destroy the epidermis, are absorbed more quickly, and in greater quantity, than mild and nonirritating substances; first, because, by destroying the epidermis, they remove a first obstacle which opposes itself to their easy absorption; secondly, because that the irritation which they produce augments the activity of the absorbent veins; thirdly, finally, by overcoming the repulsive force of the lymphatic vessels, they incite these to take part in the absorption.

3d. Mild articles, which do not affect nor destroy the epidermis, are absorbed more quickly when the epidermis is injured or removed, than when it is perfect; because, when the cuticle is removed, the contact of the foreign substances with the absorbents is immediate.

4th. The vessels of the skin which possess the power of absorbing, are some veins and absorbents. The first absorb always; the second do not take part in the absorption of heterogeneous substances here, as in other parts of the body, but when their repulsive force has been overcome, or when some cause makes them deviate from their normal action.—*Journal des Progrès, Vol. XI.*

On the Effects of the Gastric Juice on the Stomach after Death, and on Abstinence.—Dr. Pommer has instituted a number of experiments on dogs, cats, and rabbits, to ascertain the correctness of the opinion of John Hunter, relative to the dissolving action of the gastric juice upon the stomach after death; and he has arrived at the following conclusions: In animals the gastric and intestinal secretions neither soften nor dissolve the membranes of the stomach or intestines; the secretion of these fluids is rather diminished than augmented during hunger; neither does the latter produce inflammation of the stomach; and death from inanition is the result of the general prostration of the vital forces, and not of inflammation of the stomach. Carnivorous animals support hunger better than herbivorous, and cats better than dogs; carnivorous animals who, during abstinence, drink water, live longer than those deprived of drink. Rabbits die often of inanition, although they have still some aliment remaining in their stomach; these animals never drink; when, driven by hunger, they take meat, they die in a short time afterwards, although they can digest this substance, as is easily shown. In animals destroyed by inanition, the veins of the lower stomach are ordinarily gorged with blood.—*Archives Générales, Dec.* 1828, *from the Medic. Chirurg. Zeitung.* 1828.

Menstruation at the Age of Nineteen Months.—A case of this kind is related in the third number of *Meckel's Archiv. fur Anat. und Physiologie*, for 1827. At birth this child was of an ordinary size; but after the first month she commenced to grow rapidly, and at nine months it was of the usual size of a child of a year and a half old. About this time she passed from the vagina some drops of blood; at eleven months of age, she had another and more abundant sanguineous discharge; and at the same time the mammary gland began to be developed, and hairs appeared on the mons veneris. At fourteen months she had a third, and at eighteen months a fourth, sanguineous evacuation from the vagina. The whole physical development of the child is precocious; but her mental faculties are not greater than those of other children of her age; she appears to have no desire for sexual intercourse.

Researches on the Anatomy of the Brain, presented to the Royal Academy of Sciences of Paris, by Dr. Foville, *Ex-internal Elève of the Civil Hospitals of Paris; Principal Physician of the Lunatic Asylum for the Department of the Lower Seine, &c.*

Gentlemen—During six years, in which I was connected with the medical service of the hospitals of Paris, I had the privilege of being placed in immediate relation with those whose labors on the subject of the diseases of the brain have mainly contributed to the advancement of this branch of science. I endeavored to profit by the advantages of my position, by imbibing their observations, and making myself master of their doctrines.

For this object, it was most essential to have recourse to that foundation, without which all medical theories vacillate on the brink of annihilation—on anatomy, which has ever been most in arrear in that which relates to the structure of the brain.

It is true, that very important observations had been made respecting the general development of the nervous system, and on its gradual complication in the scale of animals; and that anatomists are pretty well agreed as to its general composition. We are, nevertheless, ignorant of the structure of its principal parts; and the most widely received opinions with respect to them, are, perhaps, nothing more than ingenious hypotheses, which accurate observation may overthrow.

I saw that it was necessary that I should examine for myself. The first object of my researches was to verify accredited theories. Their first result was to inspire me with doubt respecting the validity of those theories. In the course of these researches, I was struck with certain constant dispositions in the cerebral organization, which appeared to me to have been hitherto unnoticed. I multiplied my observations, and found that the facility of making them was increased by daily practice; and I soon became sufficiently familiar with the details of structure which I had noticed, to be able clearly to demonstrate them.

It is three years since I laid before my preceptors and colleagues, for their opinion, the anatomical preparations of the brain, which I made in their presence. I was animated by the confidence which their united approbation excited.

About the same time I had the opportunity of soliciting the judgment of those whose whole career had been devoted to the study of this subject; and if they were not all decided in favor of my views, by the greater number, the preparations, on which these views were founded, were considered to be conclusive.

My Essay was presented to the Academy of Medicine; but in consequence of the death of professor Beclard, who was appointed the reporter, the judgment of that learned society has, down to the present time, been suspended. Notwithstanding the Academy of Medicine condescended, not long after, to award its prize to an extensive essay on the functions and diseases of the nervous system, of which essay my anatomical researches formed a part.

Although, since that period, I have been removed from the capital, in order to take the charge of the medical department of the noble institution for the insane at Rouen, I have not ceased to pursue my anatomical researches, which I am now occupied in describing.

Before sending my work to the press, the greatest favor to which I can aspire, and the most imposing title which I can covet as a claim to the confidence of the public, is, unquestionably, the favorable decision of the Academy of Sciences. With the hope that the Academy will grant a few moments to the examination of my observations, I have requested to be allowed the honor of reading a summary of the facts which I flatter myself that I have proved.

Laying aside the historical examination of the subject, and taking up the science at the point to which I find it at present advanced, I shall, in the first place, say a few words respecting the spinal marrow, and shall afterwards describe in succession, what I have observed in the organization of the cerebellum, in the crura cerebri, in their expansion in the corpora striata, and thalami nervorum opticorum; and, finally, I shall speak of the organization of the brain itself, and of its principal parts.

To these anatomical data, I shall subjoin such physiological and pathological considerations as the subjects may elicit.—*London Philosophical Magazine.*

(To be Continued.)

Observations relating to the Function of Digestion. By A. P. W. Philip, M.D., F. R. S., &c. The author, referring to his former papers published in the Phil. Trans., concludes that digestion requires, for its due performance, both a proper supply of gastric secretion, and a certain muscular action in the stomach; the latter circumstance being needful for the expulsion of that portion of food which has been acted upon by the gastric juice. Nervous power is necessary for secretion; but the muscular action of the stomach being excited by the mechanical stimulus of the contents of that organ, is independent of the nervous power. It had already been shown by the author, that after the removal of a portion of the eighth pair of nerves, the galvanic influence directed through these nerves, will restore the secretion of gastric juice. But Messrs. Breschet, and H. Milne Edwards, have lately endeavored to prove that the same effect results also from mechanical irritation of the lower portions of the divided nerves. The author points out several circumstances which appear to have been overlooked by these gentlemen, and which he thinks invalidate the conclusions they have deduced from their experiments. He states that a certain quantity of digested food will always be found in the stomach of the animal, for five or six hours after the operation, and even after the lapse of ten or twelve hours, from its being less completely changed ; and, therefore, expelled more slowly than in the natural state. The paper concluded with the recital of experiments made for the author by Mr. Cutler, in which the contents of the stomach of a rabbit, whose eighth pair of nerves, after excision, had been kept mechanically irritated, were compared with those of another rabbit, in which the nerves had not been irritated, and of a third which had been left undisturbed. All those who witnessed the result of this experiment, among whom was Mr. Brodie, were convinced that the irritation of the nerves had no effect whatever in promoting the digestion of the food, neither did it at all contribute to relieve the difficulty of breathing consequent upon the section of the nerves.—*London Philosophical Magazine.*

PATHOLOGY.

Observations relative to the question, "Is the appearance of the Blood abstracted as a remedial means, a just criterion in considering the propriety of repeating the operation of Bloodletting?" By John Davy, M. D., F. R. S., Physician to the Forces.

It is of importance, in so momentous a subject as the abstraction of blood, that we should come to some positive conclusion relative to the above question, and, whether negative or affirmative, that it should be well founded on facts, and not matter of opinion.

Let us first consider the appearances and qualities of the blood, which are commonly supposed to be indicative of inflammation, and to warrant, rather than forbid, further bloodletting. They are chiefly the following: An unusual degree of fluidity of the blood the instant it is drawn; unusual slowness in coagulating; and, when coagulated, being covered with a buffy coat, and cupped.

Relative to these appearances and qualities of blood, experience seems to show that they are met with in the majority of cases of local inflammation, but with shades, differences, and exceptions involving much difficulty and perplexity.

1. When the inflammation is violent, rapidly running on to suppuration, and very extensive, as attacking, at the same time, more

than one texture, or only the same texture, but in different organs, the blood drawn, I have observed, is often neither cupped or buffed. This I have witnessed most strikingly in cases of peritoneal inflammation, either pure or complicated, with inflammation of the mucous coat of the intestines, or with diffuse cellular inflammation.

2. In diffuse cellular inflammation, I have often noticed that the blood coagulated rapidly—as rapidly as when in health; and yet, being unusually liquid, exhibited a slight buffy coat; provided the vessel used for holding it was filled in a few seconds, and instantly put aside, and allowed to remain undisturbed.

3. In ordinary cases of inflammation, as of the pleura and lungs, the blood drawn at the commencement of the disease, is occasionally not buffed or cupped; but on repeating the operation the following day, the blood exhibits both these qualities.

4. In cases of inflammation of the mucous coat, whether of the air passages, or of the alimentary canal, the blood drawn sometimes shows the appearances and qualities enumerated, and sometimes not.

5. Experience does not seem to have established, even generally, any relation in point of degree, between these appearances and qualities, and the intensity of the inflammation. Sometimes the buffy coat in the blood is very thick, and the crassamentum is much contracted, and the symptoms of inflammation are not violent, and the recovery is not long protracted; and sometimes the reverse of this occurs.

6. In a large proportion of fatal cases, fibrinous concretions, or polypi, as they were formerly called, corresponding to the buffy coat on blood drawn, are found in the heart and great vessels; and, as well as I can judge from my experience, as often when the lancet has been freely used, or only moderately, or not at all.

The consideration of such facts, I must confess, deprives me of confidence in these appearances as indications for practice and the repetition of bloodletting, and induces me to conclude that, as a criterion in this way, they cannot be pronounced just or safe.

Let us next consider the appearances and qualities of the blood, commonly supposed to be connected with a state of the system, as it were the opposite of inflammation, and not to warrant farther bloodletting. They are chiefly, as it is supposed, a very soft crassamentum, very little, if at all, contracted—or the blood remaining liquid—or the proportion of crassamentum to the serum being unusually small.

So far as I am able to judge, these appearances and qualities of the blood are not proved by experience to be connected with the state of the system supposed.

1. In the remittent fever of hot climates, and in cholera morbus, both the common kind and the epidemic, the crassamentum of the blood drawn is generally softer than natural, and little, if at all, contracted; and yet bloodletting in these diseases is not generally injurious; it is often beneficial, and even when repeated.

2. Blood without fibrine, in any disease, is very uncommon. I have witnessed it only in cases of pulmonary apoplexy, and that

after death, in the cavities of the heart and vessels; but so soon after death, that it may be taken for granted that it was not a *post mortem* change; that it existed previously, and was probably connected with, and partly the cause of, the fatal effusion. In such cases, no one, I suppose, would have hesitated, if called in time, in abstracting blood, especially taking into consideration the plethoric habits of the individuals to whose cases I allude, and their previous apparent robust health.

3. The proportion of the crassamentum to the serum being small, may often be witnessed in acute diseases in their advanced stage, or in acute diseases, supervening on chronic, of long duration, or occurring to persons of great delicacy of constitution, of feeble health, and of valetudinary habits. In such cases, no judicious practitioner would think of using the lancet, unless that he considered it urgently necessary; and then, surely, he would not be prevented using it, even if certain of the blood being below par, in respect to the proportion of crassamentum it might yield.

Lastly, there is another, and extensive, and most important class of diseases, (were a classification formed according to the appearances and qualities of the blood,) in which the blood, as far as we have learnt from experience, is not apparently altered, as in the continued fever of summer, differing but little from the ephemera, as in the early stage of synochus; and as in apoplexy and tetanus, and many of the diseases strictly belonging to the neuroses, in the treatment of which bloodletting is often useful, and sometimes indispensable.

These considerations tend to support the former conclusion. It appears to me, that the more experience medical practitioners have, the less confidence they place in the appearances of the blood, in forming their opinion on the nature of a disease, and on the mode of treating it. What were the sentiments of the late learned and experienced Dr. Heberden on this matter? He says "the more we know of the human body, the more reason we find to believe, that the seat of diseases is not to be sought for in the blood, to the sensible qualities of which they seem to have very little relation; and though it be supposed to hold in all maladies, yet, in reality, it is but in very few that the blood affords the practitioner any useful information." This is called by Dr. Scudamore (from whose essay on the blood I give the quotation) a remarkable passage. In the state of knowledge of the blood, at the time it was written, there can be no doubt that the practical conclusion with which it ends was perfectly correct, and I fear it is still so, and believe that it is, though our knowledge of this fluid, since then, has been increased, and that it is so, even more srictly than expressed, even in all diseases, and without the exception of "very few." Is there, I would beg leave to ask, any one disease, in the considering and management of which the skilful and conscientious practitioner considers himself under the necessity of examining the blood? I am not aware that there is one such. In cases of pneumonia and pleurisy, it was, and is, perhaps, still, usual for the practitioner to look at the blood. Suppose the blood is not buffed, and in a few hours the symptoms, generally, indicate the propriety of abstracting more blood, will the practitioner hesitate to abstract it, merely from the absence of the buffy coat on the blood first drawn? Suppose the blood abstracted in a case of pulmonary inflammation, supervening on tubercular phthisis, is strongly buffed, and the symptoms continue little, if at all, mitigated, will the practitioner, on account of the state of the blood, repeat the operation of bloodletting? Most probably he will not. He will consider rather the peculiar state of his patient, and endeavor to subdue the inflammation by other means.

Though I believe the time is not yet arrived that, in relation to practice, we can derive advantage from inspecting the appearances of the blood, yet it is to be hoped it will arrive; and that it will come seems possible, if the subject is carefully investigated in a strict scientific manner by those who are unprejudiced, and who are competent to engage in the investigation. Dr. Heberden, in the passage quoted, no doubt gave the result of *his experience*, which was unfavorable to examining the blood; but, as he has expressed it, it does not so appear. His conclusion is founded on an hypothetical basis, the soundness of which may be called in question.

It is an important question for enquiry, whether the blood is, or is not, the seat of some diseases; whether unhealthy blood has not an injurious effect in every instance; and, if so, what are its modifications and their effects. These are legitimate subjects for experimental enquiry. They can only be determined by experiments, carefully and laboriously made by the scientific physician, whose taste leads him to engage in such a pursuit, with zeal to support him through it, and opportunities such as a public hospital can afford. Such pursuits belong to the higher departments of the profession, and must be conducted in the quiet walks of science. They are, in relation to the ordinary mode of inspecting and examining the blood by practitioners, like the investigations of the philosophical navigator, in comparison with the observations of the trading mariner—the one intent on the natural history and physical laws of the terraqueous globe—the other limiting his attention to the circumstances which obviously, or are supposed to, expedite or impede his voyage, and render secure, or occasion risk to, his vessel. As it is advantageous that the two characters should be kept distinct in ordinary navigation, so it seems equally proper that in medicine the practical part should not be blended with the scientific, and that the practitioner should keep on his course, guided by certain experience, and, so far as science gives a steady light, enlightened by its rays, leaving the scientific physician to explore at his leisure, aided by the best methods and instruments of research, the doubtful regions of the profession, and investigate the mysteries of the system in health and disease. D. Scudamore, in his Essay on the Blood, is of a different opinion, and strongly recommends the attention of the practitioner to the appearances of the blood, persuaded that they will give "important information of the real state of the power and the action of the heart and arteries, and of the condition of the system itself." And he points out a number of circumstances, to which he says the attention must be directed in bloodletting; as 1st, "the kind of orifice;" 2dly, "the stream in which the blood flows;" 3dly, "the state of the pulse during the bleeding;" 4thly, "the apparent density, the color, and other appearances of the blood on its first being received into the basin;" 5thly, "the time in which it coagulates;" 6thly, "the internal appearance of the coagulated blood;" 7thly, "the texture of the coagulum;" 8thly, "the comparative conditions of the several portions of blood in different cups;" 9thly, "the appearance and quality of the serum."

These, I admit, and other circumstances, deserve the attention of the scientific enquirer. I should hope, however, that the mind of the practitioner and his eye would be more intent on the state of the patient, than on that of the blood; and having made the orifice thought proper in the vein, the blood flowing as he could wish, that he would concentrate his attention on the effect taking place in the living system, if the case be an urgent one, and that he would observe whether there is abatement of pain, or of the sense of oppression; whether the pulse rises or falls as the blood flows; and reflect, judging from the supposed nature of the disease, and the immediate impression produced, on the extent to which the abstraction of blood should be carried. For my own part, I must candidly confess, that I have never been able to combine in myself the two characters of the practitioner and enquirer at the same time; and that I have always found it beyond my power to watch the pulse and countenance, and feelings of the patient, and study the fleeting appearances of the blood in a satisfactory manner; and, consequently, when I have attempted the one, even the investigation of a single property of the blood, I have always been a mere spectator, and have generally requested the practitioner to judge for himself, of the quantity of blood that should be drawn. And I would recommend the same plan of proceeding to most others; lest, in the ardor or interest of the scientific enquiry, the patient have not that attention paid him which is his due, and humanity suffer in a cause which should have humanity for its chief object and end, and the name of science, in its turn, suffer and fall into disgrace among those who do not distinguish between the genuine and false.

Malta, November 11, 1828.—*Edin. Med. and Surg. Journal.*

Case of a Man who fancied that he had a Serpent in his Belly, and upon whom the operation of Gastrotomy was pretended to be performed with success. (Condensed from *La Clinique.*)

The patient was a young countryman, a laborer in the fields, who fancied that he had swallowed a small serpent in a glass of muddy water. This alarming accident had occurred five years before he presented himself to M. Maury, at the hospital of St. Louis. The animal had grown to an enormous size, in the imagination of the unfortunate patient, and there was scarcely any part of the body upon which its visits were not occasionally inflicted; its most common residence, however, was the abdomen. Laboring under such an hallucination, the mental distress of the patient may be imagined. He was fully convinced that nothing but an operation could relieve him from his tormentor; and, as it was evidently useless to reason with him upon the subject, the following *ruse de chirurgien* was practised.

To render the illusion complete, a large fold of the abdominal integuments was drawn up, and a bistoury was passed through. A living adder was secretly introduced into the wound, like a seton. The patient was then allowed to grasp the bleeding head of the animal, and to assist the surgeon in removing it from his body; which was, of course, happily effected. He felt the greatest joy at his deliverance, and was fully sensible the next day of the wonderful diminution of the size of his belly. The dreadful sensations he had experienced for five long years, and the hissing of his tormentor, no longer troubled him. He was completely well in a few days, and has since had no complaint.

One circumstance nearly renewed all his anxiety. He feared that some eggs of the serpent might be left behind; but this apprehension was removed by the adroit assurance of the surgeon that his late visitor was a male.

Disease of the Heart caused by Onanism.—Dr. Krimer, of Aach, has lately published an interesting paper on this subject. Our own experience has furnished us with several opportunities of seeing cases of the kind he describes; and, as the subject has not hitherto been particularly discussed, we shall give the leading points of his communication.

Dr. K. is of opinion that diseases of the heart, which have increased so much within the last twenty years, do not always depend upon organic alteration, but are very frequently produced by the baneful and lamentably frequent practice of the vice of onanism. Headaches, great anxiety, palpitations, faintness, an oppression and unusual sensibility in the epigastric region, are the first symptoms produced. They increase in severity in proportion as the subject gives way to the gratification of his unnatural propensity, and quickly diminish, or cease altogether, if he abandons it. To support his opinions, Dr. K. states many cases. He enumerates the following symptoms as pathognomonic of such affections of the heart; by an attention to which, the practitioner will be enabled to distinguish the train of symptoms from other diseases which are not unfrequently suspected.

1. The hair loses its natural brilliancy, is remarkably dry, and frequently splits at the extremities. It falls off easily and in large quantities, especially from the fore part of the head. In persons affected with consumption, or organic disease of the heart, the hairs appear well nourished, and rarely fall off.

2. The eyes are dull, downcast, frequently full of tears, and without expression, and deeply sunken in their orbits. The edges of the eyelids are reddish, and surrounded by a bluish tint. In phthisical patients, and those with organic disease of the heart, the eyes

are brilliant, and always preserve their natural expression and vivacity. In young females, at the approach of menstruation, a blue circle is commonly observed around the eyes, but here, also, their brilliancy is undiminished.

3. The patient appears very timid, and unwilling to look other people in the face.

4. Periodical headache is common, extending from the occiput towards the forehead.

5. The power of sight is diminished, the appetite lost, and the tongue is usually loaded. A slight cough, short and difficult respiration, are generally present; but still the patient can draw a deep inspiration.

6. Pains in the stomach, with weight and pressure in the epigastric region. Patients with organic diseases of the heart have occasionally these symptoms, but in such cases they are not accompanied by those above enumerated.

7. A general feeling of lassitude and feebleness of the limbs, with pains in the lower part of the back. We would add, also, that pain and throbbing of the testicles, with uneasy sensations shooting up the spermatic cord, are frequently complained of.

8. The perspiration has a dull and sweetish odor, similar to that of infants at the breast.

9. If the vice of onanism be touched upon in conversation, the agitation and embarrassment of the patient invariably betray him.

10. If the practice be continued, the mind is at length enfeebled, the patient is incapable of mental or bodily exertion, and sinks into a state of somnolency.—*Hufeland's Journal.*

Absence of the Menses in a Woman in whom the other Signs of Puberty existed; Obstruction of the Extremities of the Fallopian Tubes, with Enlargement of the Uterus, which contained a membranous Bag full of Pus. By A. Reynaud.

A native of Flanders, who, though twenty-one years old, had never menstruated, was admitted a patient of the *Hôpital la Charité*, with disease of the spine, excepting which and smallpox she had never been ill. At thirteen she had the appearance of a woman, after which, though tall and well made, she grew but little. She never had the precursory signs of incipient menstruation, nor was she subsequently, at any period of the month, similarly affected. At the age of eighteen, she complained of a dull fixed pain in the lumbar region; yet the influence of habit enabled her still to follow her laborious occupations; but, the pain gradually increasing, she was soon almost, and ultimately quite, a cripple. Two months before her admission into the hospital, an abscess formed at the anterior and superior spinous process of the left ilium. When it was first examined at the hospital, the skin was of a natural color; the the tumor, of the size of a large walnut, fluctuated and disappeared by pressure. As yet there were no signs of fever. The usual treatment of psoas abscess was instituted; but the disease became daily worse, and the patient at length died, worn out by constant suppuration and pain.

After death, one of the vertebræ was found to be nearly destroyed; the femur, ilium, &c. were also much diseased.

The uterus was large enough to be mistaken for that of a woman about six weeks pregnant; exhibited very evident fluctuation, but no fluid escaped through the neck, although this part, more than commonly capacious, was pervious, but partly filled by a whitish, glairy, cohesive substance. An incision being cautiously made through the parietes of the womb, its cavity was discovered to be enlarged and completely occupied by a false membrane, which closed up the orifice of the neck and those of the fallopian tubes. This sac adhered rather intimately to the walls of the uterus, from which it was easily separated, though not united to them by cellular membrane. This sort of cyst contained about three or four ounces of a yellow, grayish pus. Its internal surface resembled a mucous membrane without villi. A black substance, like the uvea, was deposited irregularly between this adventitious membrane and the uterus, whence it derived its mottled appearance. It was corroded internally in several parts, but not quite through; yet two of these ulcerations were extensive, deep, and bounded by the substance of the uterus, itself become soft and irregular. These ulcerations were situated posteriorly, and, therefore, at a distance from the spot where the neck of the uterus and fallopian tubes usually open.

No trace whatever of the uterine orifice of the fallopian tubes could be found. An incision was made along the course of these tubes, and a hog's bristle was attempted to be thence passed into the uterus, but this was found to be impracticable, since they became impervious as they approached the cavity of that organ, whence they were intercepted by a thin layer of uterine substance, and their diameter was in general much contracted. The caliber of the fallopian tubes was obliterated towards the ovaries. These bodies were more than an inch long, and several small cicatrices were observable upon their surface. Both contained in their centre a corpus luteum, of a brown red color; and several small fibrous bags in a wrinkled and collapsed state, but admitting of considerable dilatation. Many small oval bodies, as large as hempseed, hollow, and of a fibrous texture, somewhat resembling small eggs, were found in the course of the fallopian tubes, and within the folds of the broad ligaments of uterus.—*Journal Hebdomadaire.*

Abscess in the Cavity of the Meninges, cured by the Application of the Trephine. By M. Roux.—A boy, aged fifteen, had, for more than four years, a small fistulous opening in the left parietal region, in consequence of the opening of an abscess of the scalp caused by a blow. M. Roux, having been consulted, thought that there existed caries of the internal table, and that coma, which occurred when the pus did not flow freely, was owing to the accumulation of pus from this caries. He applied the crown of a trephine upon the fistula, with the intention of facilitating the passage of the portions of caries, or necrosed bone; he then found that caries did not exist; the fistula penetrated the dura mater. This membrane was incised, and he found that there existed an abscess in the cavity of the meninges, which compressed the brain. When the pus was evacuated, he perceived a considerable depression on the middle of the left lobe: but this depression gradually diminished, and finally disappeared. The wound made by the trephine gradually healed, and the patient was cured.—*Journal Général de Médecine.*

Obliteration of the left Iliac Vein; Venous Circulation continued collaterally, &c. By M. Reynaud.—In the veins, as well as in the arteries, the course of the blood is not necessarily interrupted by the obstruction of a large venous trunk, since it may be kept up by collateral anastomosis, as well as by other means. This is accomplished exactly in the same manner as in the arterial system; at first a great many minute veins augment in size, and assist in conveying the blood from the parts below to those above the obstruction; beyond which some of the veins gradually assume their proper volume, while a few of them retain their newly acquired caliber. Although this state of the venous circulation has not been frequently, it has been correctly, described; yet such is the importance of the fact in a practical as well as physiological point of view, and especially in the diagnosis of some cases of dropsy, that the following details of a case, which was recently treated at the Hôpital la Charité, appear to be worthy of record.

A woman, aged sixty-one, who had been for some time under the care of the physician, came under that of MM. Boyer and Roux, on 22d July, for disease of the right haunch. Five months before, she began to feel pain in than part; some weeks after, it extended to the knee, and rendered walking difficult. She affirmed that she had never fallen upon her haunch, or in any way bruised it. At this period the right haunch was swollen, and the skin replete with varicose veins. This thigh was about two inches shorter than the other; the great trochanter was observed to be nearer the spine of the ilium than is usual.

The nature of the disease was immediately recognized, and its fatal termination anticipated. The attention of the surgeon was particularly attracted by a very large vein, which, from one of the crural veins, extended across the abdomen, making many irregular turns till it reached the umbilicus, and then it returned back to join the opposite crural vein. At its origin it was single, and afterwards divided into two or three branches, which, soon uniting again, terminated in a single trunk. When the patient was in the erect position, this vein was as large as the little finger. It appears that the patient did not notice the unusual size of this vein till after she had been affected with pain in the haunch and difficulty of walking.

MM. Boyer and Roux, being persuaded that this was a case in which, owing to obliteration of a large vessel, the circulation was kept up collaterally, and that nearly all the blood of the left was conveyed into the right crural vein, they endeavored to ascertain the precise direction in which the blood flowed, and found that it circulated from left to right. Though there was little doubt as to the obliteration, more or less complete, of the left iliac vein, yet its precise date was not known. Though the patient affirmed that it had but recently existed, yet she related that, between the age of ten and seventeen, her left inferior extremity became œdematous, and the least exercise made her foot swell so much that she was obliged to go slipshod. The swelling subsided by repose. She married at twenty-one, and, on her becoming pregnant, both her legs became œdematous, but the left considerably more so than the right. After her confinement, the swelling of the right leg disappeared, while that of the left continued as before. At this time she was subject to palpitation, to colic, and a slight cough; and from time to time the submaxillary glands were enlarged, though her health was not in other respects bad. At a later period she took a voyage to Martinique, were she resided several years.

During her abode in the hospital, and long before, she was extremely thin, the pain in the haunch unremitting, and latterly she was reduced to a mere skeleton. The feet were both œdematous, but the left more so than the right. The appetite failed; diarrhœa supervened; the gums and tongue were covered with aphthæ; deglutition became difficult; she had frequent nausea and pain in the epigastrium. At this time her debility was extreme, pulse small and fluttering, and she died on the 4th of August.

Inspection of the Body. The iliac vein is entirely obliterated from just above the hypogastric to where the superficial vein of the abdomen joins the crural, about the space of four inches. Throughout its whole course it is surrounded with a cancerous production, from which it is difficult to distinguish it at first sight; but, by attentive dissection, it is found to traverse this mass, and, after appearing a mere cord, solid and compact, again becomes pervious towards the crural arch. The hypogastric vein and its branches were in the same manner obliterated. At the part where the vena saphena empties itself into the crural, a large venous trunk arises from the latter, which is discovered, both by its course and origin, to be the superficial vein of the abdomen. At first taking an oblique direction upwards and inwards, it rises as high as the umbilicus, subdivides into three large branches, which, assuming the form of an arch, descend towards the crural of the other side, after again becoming a single trunk. Near its origin likewise arises another branch, less volumnious, which, after transversely crossing the hypogastric region, terminates in the right crural vein, at a part corresponding to its commencement in the left. Thus it became sufficiently manifest that the blood, returning from the left inferior limb, had ceased to pass by the iliac vein of that side, but, on the contrary, circulated through the right iliac by means of the collateral branches. The crural vein, where the superficial one of the abdomen enters it, is unusually large; and the caliber of the corresponding iliac equally augmented.—*Journal Hebdomadaire.*

Case of Inflammation of the Umbilical Vein, with Infantile Erysipelas. By Robert Lee, M. D., Physician to the British Lying-in Hospital.

An infant, four days after birth, was attacked with erysipelatous inflammation of both fore arms, and severe febrile symptoms. Two days after the first appearance of redness and swelling of the integuments of the arms, a similar affection was perceived in those of the hypogastrium, genital organs, and upper part of the thighs. The child died on the twelfth day subsequent to birth, and was examined on the 18th of November, 1828, two days after death.

The cellular tissue of the affected parts was highly vascular, and in the inguinal regions infiltrated with serum. On opening the abdomen, the peritoneum covering the different viscera was found in a healthy condition; but the umbilical vein, from the navel to the liver, was preternaturally indurated and distended. On laying it open, a yellow colored purulent fluid escaped, and the whole of its interior surface was found lined with a layer of closely adhering lymph; this coating of lymph extended into the principal branches of the umbilical vein, proceeding to the liver, and along the ductus venosus, as far as the venæ cavæ. The umbilical vein and ductus venosus remained pervious, and there was no morbid appearance in the venæ cavæ above or below its entrance. The coats of the umbilical were much more thickened than they are usually found to be at the same period after birth.

Morbid appearances of the umbilical vein in young children, similar to those which I witnessed in the foregoing case, have not been described by any pathologist in this country, as far as I have been able to ascertain. In the writings of Gaithshore, Bromfield, and Underwood, we find little, indeed, that is satisfactory, respecting either the nature of infantile erysipelas or the alterations of structure which accompany it. That inflammation and suppuration of the umbilical vein and its branches not unfrequently occasion fatal erysipelas, or death, without any inflammation of the surface, in new born children, I am disposed to infer, not from the preceding instance alone, but from the observations of several continental writers on the subject, and from the acknowledged pernicious effects of purulent matter when secreted within the veins of the adult.

Professor Osiander found the lungs inflamed, and the umbilical vein, from the navel to the liver, filled with a yellow fluid, in a child who died of erysipelas a short period after birth. In the body of a child, seven days old, examined by Meckel, the umbilical vein was found inflamed, and its inner membrane covered with a layer of pus, and perforated with small ulcerations. In another child, attacked soon after birth with vomiting, colic, diarrhœa, jaundice, and fever, he found the peritoneum inflamed, and a puriform effusion in the abdominal cavity. The branches of the venæ portæ, and those of the umbilical vein, were swollen, and their coats much thickened.

M. Breschet has repeatedly observed this inflammation of the umbilical vein and its branches in the bodies of children who had died a few days subsequent to birth; and he is disposed to consider this phlebitis as the sole cause of death in many of these cases.—*London Medical and Physical Journal.*

Singular Case of Insanity caused directly by a Fall on the Head.—A teacher of gymnastics fell from the top of a steep high stair head foremost, and pitched upon his head on a stone floor, where he lay for a few minutes stunned. Next day his physician, Dr. Hausbrand, found him abed, in full possession of his senses, and complaining only of a pain in the head, on which no farther injury could be detected except a few superficial excoriations. He had passed a good night, the pulse and respiration were natural, and the functions of the brain were quite unaffected. This prosperous state continued two nights and a day, when matters suddenly took a different turn, without any fresh cause, and in the course of an hour he lost his reason so completely, that he spoke unintelligibly, got out of bed, insisted on leaving the house, stared right before him, would not answer questions, and did every thing confusedly and hurriedly. It was impossible to fix his attention on any thing, or rather he was constantly as it were absent in mind. Bloody serum at the same time issued from the right ear. In twenty-four hours more he became speechless, at least could not articulate, but from time to time uttered involuntary and unintelligible cries, and in reply to frequently repeated questions, answered *yes*, without any regard to its meaning. The tongue appeared to have lost its voluntary movements. Being placed in the warm bath, he at first evidently relished it; but on a bucket of cold water being dashed over his head, he screamed out and sprang from the bath, nor could any entreaty subsequently persuade him to enter it again; nay, whenever it was talked of, although in every other particular he was completely unconscious of what went on around him, he became greatly alarmed, and, calling out no! no! endeavored to make his escape. For three days this singular state continued, during which time he never expressed a want, though he ate and drank when food or drink was placed before him, and went to stool when he was placed on the night chair. He had no sign of bodily illness; but nevertheless his expression of countenance was that of an ideot. At night he slept well and composedly; in the day time he lay passive in bed like one in the deepest brown study. He allowed himself to be undressed without resistance, yet without giving any aid; or to be led up and down the room, but seemed to be perfectly a passive machine, and to have no will of his own whatever. Leeches, cold cloths, and blisters were applied without any advantage. After this state had lasted three days, a fit of epilepsy suddenly took place, for which he was bled without any relief, and the fits recurred frequently for three days. Still his stupid moodiness continued. At the end of that period, tartar emetic was ordered on account of some gastric symptoms; and after the operation of this remedy the epileptic fits became much milder. Next day, after the operation of another emetic, they ceased entirely, and the patient for the first time attended to what was going on around him, attempted to speak, and dressed himself. The emetic system was continued an entire fortnight, so as to excite vomiting three or four times a day; and during this period he recovered entirely, but with the following singular phenomena.

When he first tried to speak, although he had evidently an accurate conception of what he wished to say, he could not find the correct expression, or even a single proper word; but when any one spoke the sentence articulately to him, he repeated it, and with evident satisfaction. He had exactly the appearance of a person who struggled to make himself understood in a foreign language which he spoke but imperfectly. In fact he had lost, not the power of speech, but the knowledge of language; and what was very remarkable, the languages which he formerly spoke most fluently, he had now forgot most completely. A Pole by birth, he spoke Polish most fluently before, and had been in the daily practice of conversing with his countrymen in that tongue; but now he understood much better his German friends than his Polish countrymen. Much less could he speak Polish, while nevertheless he spoke a little German, though not without help. With the Latin tongue he seemed still better acquainted; that is, he had not forgotten it so entirely. With Greek it was different; he had forgotten it as completely as the Polish. He could read Latin or Greek authors with whose works he was formerly acquainted; but he could not translate Greek at all, or Latin without assistance. Every day, however, his command of language increased rapidly, so that passages in Latin and Greek which were unintelligible one day, he could easily translate the next. His former facility in understanding various languages returned in the following order. First, he recovered his command of German, then he regained his knowledge of Latin, next that of Greek; and in the last place he recovered his command of Polish. It was also remarkable that in no other respect was any weakness of memory observed, or diminution of judgment, or of any other faculty of the mind. The discharge from the ear bore no relation to its progress; for both when his illness was at its height, and during convalescence, it occasionally ceased for twenty-four hours without any injurious effect. It is added in the narrative, that for some years before, this man was of a gloomy disposition of mind, had a timid look, and yellow complexion, and often thought himself sick; but that now his expression is clear, and his temper of mind cheerful.—*Edinburgh Med. and Surg. Journal, Jan.*, 1829.

THEORY AND PRACTICE OF PHYSIC.

Neuralgia Ophthalmica.—Among many casual notices of this peculiar ophthalmia, and unsatisfactory as casual, I must, however, distinguish the essay of Wardrop; the first, I believe, through which the attention of physicians was fairly called to it. To praise that essay for the accuracy of its description of a much neglected disease, is but to agree with all who have read it; yet I should be negligent of my duty did I not remark, that however perfectly my able friend has seen and discriminated this variety, his account is limited to the severer cases, and that he has not appeared to be aware, in his essay, whatever may be the case otherwise, either of the slighter and less marked, or even of the chronic, varieties, or of the extreme prevalence of this peculiar species; and that, in consequence, there is almost as much error prevailing, in practice, respecting it, even under the name which he has adopted, by those who have had the advantage of his experience, as there was before. Thus, also, I perceive no notice of its properly intermittent and alternating characters; while with respect to other portions of the description, such as the general fever, the bilious symptoms, the decided neuralgic and periodical pain, to which I may also add the utility of bark, I should desire no other evidence to prove that it demands the term which I desire to apply to it, and that it is in reality a mode of neuralgia. I shall, however, be able to produce much further evidence of its connexion both with that disease and with intermittent; and if I were inclined to express any surprize that so acute and experienced an observer had not formed the conclusion to the very verge of which he has approached, I should suppress that by recollecting, that in this as in every other disease which I have here described under this leading character, the foundation and cause of all the error must be sought in the want of a correct and broad view of the fundamental disease itself—neuralgia.

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There is a peculiarity in the aspect of the inflammation itself, far easier to recognize than to describe, and by which alone it is generally distinguishable, even at a distance, and on a mere glance, to those who have acquired that experience which in other cases is called the *tactus eruditus.* I have sought in vain for expressions to say fully what this is; but I believe it to be as useless as difficult, since, however accurate they might appear to those who already know this inflammation by sight, they would not teach others to know it, inasmuch as no visible object can be justly described to the previously ignorant; while such a description would be useless to those who are already experienced in this ophthalmia. The more obvious character, however, is a dull, rather than a lively red color, not unfrequently attended by a tinge of yellow; the cause of which is especially visible in the sound eye when but one is inflamed, and the source of which must now also be obvious, particularly in autumnal cases. This inflammation occupies the whole conjunctiva, even to the verge of the cornea; and while the redness is rather produced by the minutest branches of the arteries than the large ones, the general aspect is almost that of an additional coat of red cloth in the severer cases, sometimes attaining a higher level than that of the cornea.

In severity, however, it differs exceedingly, from a mere general, and somewhat pale, redness of the conjunctiva, to that violent inflammation just noticed. Here, it is apt to resemble the celebrated contagious and purulent ophthalmia; but it can nevertheless be distinguished by attending to its progress and to the collateral symptoms, while it never, as far as I know it, suppurates on the surface, like that disease. This is a part of its history, however, on which I must yet speak with some hesitation; as, after many years of observation, whence I concluded that it never did suppurate, my opinions have been recently shaken by one or two cases, though I had not the opportunity that was necessary for satisfying myself as to the real nature of the disease in these. Whenever it shall, as a separate disease, have received from physicians the further attention which it requires, this, and some other circumstances which I cannot now well elucidate, will be better understood; while I shall gladly avail myself of such information; though it will be necessary that this disorder shall be truly discriminated for this purpose, lest we return into worse confusion than that which I am attempting to rectify.

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When there is no pain in the ball of the eye, it would seem that the conjunctiva alone is affected; while, when irritability to light attends, we must suppose that the neighboring vessels, and nerves, within the eye, are in that state, be it from sympathy or extension, which so often occurs in the rheumatism of the face, and in common neuralgia, where, added to the decided inflammation and pain, there is an excitement, a tenderness, or an irritability in the adjoining parts. It is not necessary that the eyelids should be affected, or that the inflammation of the conjunctiva of the eye should extend over that of the eyelid; though this happens in the severer cases, and, as it would seem, rather in the acute than in the chronic ones. It is a fortunate circumstance, that this inflammation is so much and so often resisted by the transparent cornea, as is the fact also in some other ophthalmias; but abundant instances of this do nevertheless occur. Rigidly speaking, and in the severer cases, the cornea becomes dull; and if this opacity proceeds, it at length forms a cloud or a spot which diffuses itself over the whole eye, while it is more condensed in the centre. Fortunately, even when very considerable, this commonly disappears, under proper treatment of the general disease, and even within a day or two; while I have seen it return many times, under different relapses and in successive seasons, without any more permanent effects. In such cases, also, it will sometimes be found, by means of a lens, that there is an ulterior disorder of the cornea, resembling very superficial ulceration; equally disappearing, and without bad consequences, with the general inflammation. Far more rarely does it affect the iris; but cases even happen, as I shall soon show, where that membrane alone is the seat of the disease; the neuralgic affection producing here a rheumatism of the iris, to adopt the common phraseology.

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A watchful physician will rarely fail to perceive that physiognomical mark of a cold stage at some period of the day, which I have so often pointed out; as the fever of this disorder is generally, but not invariably, a quotidian; while in many cases, that stage, and even a hot fit also, are distinctly marked. This is true even of the slightest varieties and of the most chronic or most habitual and repeated ones; while in the severer, acute, disease, the fever is strongly marked as a remitting, or even as a continuous one; as continuous at least as in simple remittent; though, under types more distant than quotidian, I have met few of a severe character; those of a tertian form which have occurred to me having been most commonly mild, or else chronic cases.

Such a febrile state is often, as usual, paroxysmal while the inflammation is permanent; but this is no cause for surprize, as the same happens in the rheumatism of the face, in that of the intercostal muscles, and in other analogous affections, and also not unfrequently in the purer neuralgiæ, as in sciatica. Supposing this febrile state to be present or not, or to be more or less distinct, there is frequently a separate neuralgic pain accompanying the inflammation, throughout the disease, or, occasionally, for some days only; being the hemicrania, or the pain in the temple, or in the eyebrow, which I formerly noticed as sometimes preceding the attack; and being sometimes an extremely severe neuralgia. This is the symptom which forms that criterion for the disease which ought never to be mistaken, though in reality rarely attended to; and it is so marked, and so discriminating, that to pass it without notice, or, when present, to treat the disease as common ophthalmia, is unpardonable in even the most mechanical practitioner. * *

The person in question, an artizan under the patronage and care of an opulent family delighting in physic, was seized with the common neuralgia of the face, occasionally in its more ordinary form, and at other times under that of toothache. I was permitted to cure this by means of arsenic; but after a short time it returned in the temple, and was then followed by a tolerably severe ophthalmia, affecting the conjunctiva of the neighboring eye, and also attacking the iris. Nothing could be better marked than the disorder; as it was attended with a distinct intermittent and quotidian cold stage, and as the neuralgia of the temple was equally regular; while the contraction of the iris was also as periodical, occurring once a day, and lasting a determinate number of hours.

I attempted, of course, to explain my views of the character of the disease, while I proposed the method of cure; and with exactly the same success which I have generally had, as well with patients as with my brethren of the profession, for these twenty years and much more; at the manner of which I can now but smile, while I regret the price at which the unfortunate patients have so often purchased this imaginary triumph.

The patient was, therefore, sent to an oculist, at that time of high reputation; it having been concluded, as it is still, that neither physician nor surgeon could possibly understand a disease of the eye like the man of experience; such are the ideas attached by the vulgar to a word, which, if their meaning was the true definition of that term, would make the oldest nurse, or the empiric who sees a hundred patients in a day, the best physician; just as he who has manufactured the most tons of glauber salt and calomel in his lifetime, is the most philosophical chemist.

If, out of humanity to the unfortunate patient, I attempted to explain the case to the oculist, the suggestion was received just as I expected; and, from that time, I could but watch, for instruction, the progress of the case. The first effect of local bloodletting, blistering, and topical applications, was a great increase of the inflammation; and as the same means were continued and repeated, the disorder became daily more severe; while, the neuralgia also increasing in severity and extent, and the intermittent becoming much more strongly marked, it was declared that there was a flow of blood to the head; and so forth. General bloodletting from a vein, together with that from the temporal artery, was, therefore, adopted and repeated; while, after a certain progress in this practice, aided by more topical remedies, more purging, and more low diet, the patient became so ill that he could no longer attend the oculist, and was, therefore, sent to a hospital. These operations occupied about two months; and if I was, after this, cut off from as frequent a sight of the patient as formerly, I was easily able to ascertain, before this imprisonment, that he was laboring under an inveterate quotidian intermittent, with a neuralgia that scarcely left any repose, extreme debility with various nervous affections, and a partial fatuity; all of them the effects which I had gradually foretold to his patrons, as any one may foretel them under such practice; while the inflammation was such as apparently to extend to the bottom of the eye, from the excessive and constant pain, and while total blindness on that side had also resulted from the complete closing of the iris.

In the hospital, all this, in the usual way, justified more bleeding and more of every thing which had already proved so injurious; while the disease persevered without a single feature of alteration, except for the worse, during nearly three months, when the gradually increasing fatuity became a mania, and the patient attempted to destroy himself by cutting his throat. The attempt was, however, unsuccessful; and after the wound was healed, he was sent home, to be transferred to a lunatic asylum, during which interval, I was enabled, for a week or more, to see him daily. He was then in a state of melancholy fatuity, rather than of proper mania; while the inflammation continued, but in a comparatively mild state, with occasional headache, apparently of great severity and still periodical, though the state of the intellect prevented any very accurate examination. What was done in the lunatic hospital, I could never discover; but in about two months he died, and, as I understood through his wife, with the eye still in the same condition. * *

Of the topical applications, I must observe, that there are even acute cases of this disorder, sufficiently teasing to the patient, and even alarming to timid ones, where the mere local use of stimulants does alone remove the disorder; the constitutional affection in such instances being, perhaps, trifling, or even, it may be supposed, nothing; or else disappearing spontaneously, or from slender changes of circumstances, as intermittents themselves, equally slight, so often do. In such cases, I know not that any thing is more efficacious than hot water, as hot as it can be endured; while in the chronic relapsing attacks it is often sufficient alone to the cure. In all these cases, acute as well as chronic, persistence is most necessary; but in saying this, I must also remark on a mistaken and injurious practice, not very rare, namely, that of applying ice; while I ought to say, generally, that cold washes of all kinds are either useless or mischievous. In the chronic cases, also, especially, very strong metallic solutions, such, for example, as sulphate of zinc in the proportion of ten grains to the ounce of water, often remove the inflammation; while this particular class of remedies also dissipates the opacities of the cornea, unless caused by pustule or ulceration, or unless very dense, from repeated attacks. No incurable opacity from mere inflammation in this disease, ought in fact to exist; and when it is not prevented or cured, there has been neglect somewhere. Of other applications, opium, both within and without the eye, is often also useful; but let me remark here, that its chief, or almost sole value, is when applied on the subsiding of the paroxysm, or during that remission which can always, with care, be discovered; diminishing thus, as in all the neuralgic affections of tender parts, that soreness, or pain, or uneasiness, which persists after the proper paroxysmatic attack has passed away. Thus is also the internal use of opium useful in the same circumstances. As far as this substance is of use as an application in the chronic cases, it must, I think, be classed with the stimulant remedies already mentioned.

Lastly, in all the modes of this disease, that is, in the chronic ones at all times, and in the acute, whenever the febrile state permits, or when such evacuation as may be judged necessary has been premised, the remedies are those of intermittents and neuralgia; namely, bark, and the tonics, under all those regulations which I need not again discuss; though I ought to remark, that in numerous cases of the long continued and relapsing disease, and in many, indeed of the acuter or more severe ones, and even when of some standing, I have found both arsenic and bark eminently successful without any other aids, while rarely failing to cure a new case within even a few days. As usual in all other cases of neuralgia under every variety, the inflammation has been more tantalizing, and the remedies less actively efficacious, as it has been of longer standing and more subjected to a previous course of maltreatment; though I can scarcely, with any effort, recall a case to mind, of whatever character, which was not cured, when the patient's confidence corresponded to my own. These, in reality, are the true remedies of this ophthalmia; a fact which if it had been always known, would have saved thousands from blindness as well as from suffering; and not only so, but from broken constitutions or even worse evils; since the long persistence of this disorder produces the same effects as the similar duration of any intermittent or any neuralgia.—*Dr. Macculloughʼs Essay on Neuralgia.*

Case of Extraordinary Universal Emphysema.—A prisoner, in a workhouse at Meiningen, who had been for some time affected with dropsy in consequence of long intemperance, and the meagre diet allowed by the establishment, received from one of the overseers a chastisement, which next day left no other mark except an ecchymosed spot in the left lumbar region. On the second day the neck, face, and breast began to swell; and from the crepitation felt on pressure, it was evident that the swelling arose from the effusion of air throughout the cellular tissue. He made no complaint, however, and, in particular, his breathing was as free as usual. In the course of the subsequent night the swelling rapidly extended also over the whole head, trunk, and extremities; at the same time he was seized with great anxiety, severe cough, and a sensation as if the lungs were gradually pressed more and more upwards; and towards morning the sense of impending suffocation became so dreadful, that he entreated his attendant to give him his shoemaker's knife, in order to make incisions in the skin to let out the air. In the morning, when the relater, ***Dr. Jahn***, saw him, his state was so frightful, that it appeared as if a farther delay of fifteen minutes would have been enough to put an end to his sufferings. He sat upright in bed supported by the attendants. The head, trunk, and extremities were at least one half thicker than natural. The upper eyelids projected like two bladders of the size of apples and the eyeballs were emphysematous, and projected from the sockets. The organs within the mouth were also puffed up with air. The scrotum was as big as a hat, and the penis as thick as a stallion's. A peculiar oily sweat covered the whole integuments, which sounded, when struck, like a wet drum, and crackled when handled. The dyspnœa was most urgent, the respiration being exceedingly frequent, hurried, hissing, and accomplished with the neck projected like that of a horse at speed, and the hands grasping the chair convulsively. There was likewise froth round the mouth, a frequent suppressed cough, incapability of speaking, but perfect sensibility.

A trocar was immediately thrust into the scrotum, from which an inodorous air rushed out with great force and a hissing noise, and to the patient's instant relief. The swelling rapidly subsided every where, the breathing became much easier and deeper, the patient was able to speak again, and joked about his blown up appearance. His account of his previous sufferings was that he felt the lungs gradually pressed more and more upwards, and more and more closely, then a sense of tightness in the region of the glottis and throat, and at length a feeling as if he was choaked from within outwards. As the aperture in the scrotum was insufficient for the discharge of the whole air, other perforations were made on the extremities, back, and breast. Still the air evidently continued to be pressed into the subcutaneous cellular tissue, and it was prevented from accumulating only by the new incisions. As soon as the patient's state of amendment would allow an examination, the chest was carefully explored, but the most diligent search could not detect any fracture, splinter, depression or curvature of any rib, or laceration of a muscle; neither did he feel the slightest pain or uneasiness internally, except tightness in the chest, which was greatly diminished.

The antiphlogistic regimen was strictly enjoined. Next morning he was very comfortable, and his state rapidly improved. For ten days the air continued to collect a little towards night; but it was always easily removed by friction and pressure. On the twelfth day the legs were somewhat œdematous; but the œdema was soon removed by appropriate remedies. It is evident that the emphysema, in this case, arose from a laceration of the lungs and costal pleura.—***Magazin für die gesammte Heilkunde***, 1828.

Sudden Death.—A woman, after an attack of typhoid fever, was making rapid progress towards the recovery of her previous strength and activity, when one day she all at once broke off a conversation she was holding with her neighbor, made a convulsive movement, uttered a suppressed cry, and expired. The body was inspected next day, and every part of it examined with the greatest care; but nothing could be discovered to account for her death. In quoting this case from the Gazette de Sante, Hufeland adds, that several cases of the kind had occurred to himself, in patients convalescent from nervous fevers; and he considers them to belong to the description of cases that are usually called nervous apoplexy, or the simple apoplexy of Dr. Abercrombie. We have met with cases in the late epidemic, not, indeed, exactly parallel, because none of the patients died, yet agreeing precisely in their collateral circumstances. They were clearly, however, cases of deficient action of the heart, the affection being a state of excessive deliquium supervening with great suddenness, yielding to strong and continued stimulants, and of a kind which would undoubtedly have proved fatal in a very short space of time, if vigorous measures had not been promptly resorted to.—*Journal der Praktischen Heilkunde, October*, 1828.

SURGERY.

On the Use of the Nitrate of Silver, in the Cure of Inflammation, Wounds, and Ulcers. By John Higginbottom, Nottingham. Member of the Royal College of Surgeons of London.

The following letter of Dr. Storer, to the author, is particularly interesting. It is the unbiassed evidence of a looker on, who observes with accuracy, and infers with caution:

"Your late treatise had apprised me of your mode of using lunar caustic in the treatment of certain wounds and ulcers. I had not lost sight of the facts there detailed, and have been gratified to find, by repeated enquiries, that this plan of treatment continues to be confirmed by its success in your hands, and by other surgeons who have adopted it. It is now understood that it is capable of being extended with signal benefit, to old and extensively ulcerated legs; of which one case that I have seen is certainly an example. In cases of local disease, such success does not exceed the ordinary bounds of expectation; nor is it without analogy to the general application of this substance. When I heard that for some time past you had adopted the same plan of extinguishing cutaneous inflammation, not merely in symptomatic erysipelatous affection, but also in that constitutional erysipelas, which is often epidemic and always ushered in and accompanied with fever, I confess that I could expect no success from a practice militating so directly against the views generally entertained of the nature of this disease, and would give no ear to it without occular demonstration of its utility.

"I have now seen two cases of constitution erysipelas treated upon this principle, and as far as two cases well marked will go to authorize a conclusion, mine must be greatly in favor of the practice.

"The first was that of a healthy young woman, upwards of twenty years of age, seized with rigor, followed by smart fever, and on the second day by a complete erysipelas of the face, extending to the hair on the forehead. The fever continuing with a further extension of the inflammation, after bleeding, purgative and saline medicines, and a small vesication having arisen on the cheek, it was judged necessary, on the third day, to apply the caustic over the whole extent of the erysipelas. The patient's own account was, that she suffered considerable pain for ten hours; but, from that time, the feverish symptoms ceased, and the inflammation was arrested and subdued.

"When I saw her the fourth day after the application of the caustic, there was neither fever, nor any remains of erysipelas. The face was as black as that of an African, but in a few days more, I found her free from all symptoms of disorder, the epidermis peeling off, and the complexion underneath quite natural.

"The other was a fine healthy boy of sixteen months old, who, after a feverish attack, hȧd erysipelas on one hip and thigh, and extended partially to the leg. In this case, also, the fever and inflammation had subsided in forty-eight hours and upwards, after the application of the caustic. The account of the child's mother was that it cried very much for one hour after, then fell into a long and calm sleep, out of which it waked without fever, and called out for food. In three days afterwards, when I saw the child, it was quite well, and the scarf skin of the inflamed parts separating.

"This is the extent of what I have observed of this novel mode of treating erysipelas, and which has surprized as it has satisfied me. Sincerely wishing success to your endeavors to improve the practical part of your profession, I am, &c. JOHN STORER."

To this letter we may subjoin one from Dr. Marshall Hall, on the efficacy of the nitrate of silver in subduing inflammation of the absorbents.

"I have had an interesting opportunity of watching the influence of the nitrate of silver in a case of inflammation of the absorbents, and I will endeavor briefly to state the obvious effects of this remedy. The case was that of a young lady, aged twelve years; it began by a chilblain upon the heel; inflammation of the absorbents up to the groin followed; suppuration took place in twenty-four spots. The nitrate of silver was not applied during the first five weeks; this was very much regretted after its effects had been observed. The patient was seen by Mr. Lawrence and Mr. Wardrop, who both expressed themselves much interested in it.

"As the case would be long, I shall simply enumerate the effects of the application of the nitrate of silver in this case, as they presented themselves to my observation:

"1. It prevented suppuration in many places where the redness and tenderness were recent, yet such as before had inevitably led to formation of pus.

"2. If suppuration had taken place, the tenderness was still promptly removed, and the pus, from being thick, white, and opaque, was rendered first thin and somewhat limpid, and perhaps streaked with blood, and then, by degrees, perfectly watery and limpid.

"3. When the pus approached the surface, a small opening formed, by which it exuded, and it became unnecessary to use the lancet.

"4. The abscess was far more disposed to heal than any of those to which the nitrate of silver had not been applied.

"I may add that in several other cases I have seen the application of the nitrate of silver early, along the course of the inflamed absorbents, subdue the disease at once, rendering all other remedies totally unnecessary. I believe this would have been the case in the instance mentioned, had this remedy been applied very early.

"I am, &c. MARSHALL HALL."

"P. S. It may be well to subjoin the outline of another case, in which the nitrate of silver was useful:

"A little girl fell and cut the ring finger. The joint became permanently inflamed and swollen. The affection had subsisted three months when I saw it, preventing the little patient from attempting the piano forte. The nitrate of silver was applied every fourth or fifth day, so as to form an eschar over the whole inflamed surface, but not so as to give pain. The finger was quite well in a few weeks.

"The powers of this remedy in subduing external inflammations are altogether very remarkable, and, I think, not at all generally known."

The objects in the application of the nitrate of silver in punctured wounds, are to secure a free exit for pus, and to subdue inflammation. We have only space for the following cases.

"*Case* 18. A servant, aged twenty, slightly wounded the fore part of the index finger, at the first joint, by a bone of a hare, in dressing it. The wound healed in a day or two, and no notice was taken of it. A few days afterwards the finger became swelled and painful, and affected with a diffused inflammation of an erysipelatous character, extending to the back of the hand, and there it was bordered by a ring of a more vivid color. I applied the nitrate of silver nearly all over the finger, and upon the back of the hand, upon and beyond the inflamed border.

"On the following day the swelling remained as before, and the patient complained of heat of the parts to which the application had been made, and a small part of the finger which had not been touched was very painful. I applied the nitrate of silver to this point.

"On the succeeding day, the swelling had become puffy, and the whole finger and hand were free from pain. A few days afterwards, the hand was quite well. No medicine was given, nor was the patient prevented from pursuing her usual avocations.

"This case was the more interesting because I had two similar ones a short time before, which had been occasioned by wounds received in cutting dogs' meat, and which, under the ordinary treatment, had been several weeks in getting well."

"*Case* 25. This case illustrates the mode of treatment by the nitrate of silver, of some of those terrible effects of punctured wounds, which have been neglected in the beginning.

"B. Unwin, aged forty, washerwoman, applied to me on July 10, 1820, with severe inflammation and ulceration of the middle finger, arising from a puncture by a pin or needle, some time before.

There was much painful tumefaction, and the integuments had burst along nearly half the length of the finger, on the ulnar side, and over the middle joint, on the radial side. The probe did not, however, pass to the bone, or into the joint. I applied the nitrate of silver deeply in every part, and over the whole surface, and enveloped the finger in a cold poultice covered with cold water.

"On the eleventh, she reported that she had slept well for the first time for a whole fortnight. There was scarcely any pain, but she complained of soreness; the swelling had greatly subsided. The nitrate of silver was again applied, and the poultice and lotion continued.

"On the twelfth there were still swelling and pain; there was considerable bleeding from the wound, so that I did not apply the caustic well.

"On the thirteenth the swelling and pain were nearly gone. I repeated the application of the nitrate of silver, which induced bleeding from a fungous growth.

"On the fourteenth the swelling had nearly subsided, and the cuticle was separated all over the finger. The nitrate of silver was applied extensively over the wound, and abraded parts. It induced little bleeding, or pain.

"On the fifteenth the fungous was nearly removed; the wounds presented an appearance of slough over their surface. The nitrate of silver was applied to the fungous, which still remained.

"On the seventeenth the wound was much smaller, and the slough was separating. The nitrate of silver and cataplasm were applied as before.

"A similar report was made on the succeeding day.

"On the twentieth the slough was separating. The nitrate of silver and cataplasm were applied.

"A similar report was made on the twenty-second.

"On the twenty-fourth, the slough having separated, the integuments over it were found to be flabby and loose. The nitrate of silver was applied to them.

"By a continuation of this plan the wound gradually contracted, and, at length, when there was no further use for the cataplasm, the eschar became adherent, and the ulcer healed underneath. It appeared highly probable to me, that under any ordinary treatment, the finger in this case would have been lost."

"*Case* 61. M. Bosworth, aged sixty-nine, has had ulcerated legs for the last thirty-five years, and, during that interval, has had the ulcers healed several times, but for short periods only. The present ulcers on both legs are about twenty in number; two are of the size of a crown piece; the others from the size of sixpence to that of a pea; the veins are in a varicose state, and the legs are extensively inflamed; his sufferings have been very great; his nights have been entirely restless from excessive heat and pain. He has been scarcely able to follow his employment, of a framesmith, for many years, and he has almost always been obliged to sit to his work. I applied the nitrate of silver on the whole ulcerated and inflamed surfaces, after he had rested in bed, with poultices on the ulcers, for twenty-four hours; and I gave him a blue pill and purging powder.

"At my next visit he said that he had not suffered more pain from the application of the nitrate of silver, than from some of his former dressings; that, on the following day, he had experienced scarcely any pain, and that he had had better nights than for many years.

"I examined the sores on the fourth day, and found them in a healing state; the inflammation was gone, and my patient suffered no pain. The nitrate of silver was reapplied, with the addition of Mr. Scott's mode of bandaging.

"This case was dressed every third or fourth day, for ten weeks, when all the ulcers were perfectly healed. During the whole of this time he followed his employment with more ease than he had done at any former period for thirty years.

"I directed the patient to continue to come to me twice a week, for a few weeks, that I might examine the bandages and apply the nitrate of silver to any tender or slightly inflamed spot, if any such should make their appearance."—*Medico-Chirurgical Review.*

Monteath on Iritis.—I. *Iritis Traumatica.* This species has been also called by the Germans idiopathica, because it is produced by a direct local injury, and not by any distant, sympathetic, or constitutional cause. It is most commonly induced by extraction, division, or reclination of the cataract, by artificial pupil making, and by mechanical or mechanico-chemical injuries of the cornea and iris. It is by no means intended to assert that every inflammation of the eye produced by these causes is iritic; but the majority are of this nature, and require for their successful treatment the method of cure suited to iritis. It was the careful observation of these cases terminating in false or membranous cataracts, partly formed by the remnants of the lenticular capsule rendered opaque by inflammation, and partly by effused albumen gluing these remnants together, that the celebrated Schmidt was first led to the accurate description of this disease in his admirable work on Secondary Cataract and Iritis. The operations for cataract being the most frequent causes of traumatic iritis, a description of it as it appears after these operations, and an account of its treatment under such circumstances, will sufficiently explain the nature and treatment of iritis arising from other mechanical causes.

The limits of this essay do not permit me to describe the kinds of operation, and the errors in operating which peculiarly tend to produce iritis. It commences as early, sometimes, as two hours after the operation, and it may occur from the first to the tenth or twelfth day, coming on generally in the night, with severe pain in the eyeball, supraorbital region, and side of the head, preventing sleep, and sometimes causing great agony. I have repeatedly seen a rigor and vomiting usher in the attack. The pains may remit in the morning, but they do not cease entirely, and they recur in the evening and continue through the night. If the eye be examined, which ought to be done with great caution so soon after the operation, the sclerotica will be found to have become rose red, near the border of the cornea. The conjunctiva is also more or less inflamed, and often swollen with serious and semitransparent chemosis. The conjunctivitis and chemosis may become so considerable as completely to cover and mask the zone of inflammation on the sclerotica, so characteristic of iritis. The cornea is more affected in this iritis than perhaps in any other species; it loses its lustre, and its internal surface becomes even yellowish, which, it will be recollected from a former part of this essay, denotes that the capsule of the aqueous humor has partaken in the disease. The aqueous humor becomes also whitish, from a mixture of flakes of albumen, so that the state of the iris, &c. can hardly be discovered. This change of color in the cornea, and aqueous humor, occurs almost exclusively in the iritis which follows keratonyxis, not in that which follows extraction. The pupil, when it can be seen, is found to be immoveable, and in other respects as described in the second degree of iritis, except that change of color of the iris is often less visible in this than in the other species. The small abscesses and tubercles of lymph on the surface of the iris, also the arching or swelling forwards of this membrane, are seldom met with in this species, whereas retraction of the iris and pupil, causing an increased depth of the anterior chamber, is more frequently observed. The removal or destruction of the lens by operation, explains the latter circumstance. The inflammatory symptoms decline long before the nocturnal pains, which often remain for weeks, going off for days, and recurring without obvious cause. Marked synocha attends the more violent degrees and stages of this disease, and I have often seen the blood drawn as buffy as in acute rheumatism.

The terminations of traumatic iritis will be perfectly understood by recollecting the terminations of the third degree.

By proper treatment, the pupil may regain its size, mobility, and transparency; but in very severe or ill treated cases, more or less contraction of the pupil, its entire obliteration, or the formation of a membranous cataract, will be the result, the two latter requiring appropriate surgical treatment. Pus in the anterior chamber, forming hypopion, is more common in traumatic iritis than in any other kind; it may be in small quantity, and may be absorbed, or it may fill the anterior chamber, and cause the cornea to burst, terminating in total loss of the eye.

Treatment. This species requires the most active means to overcome it. General bleeding is always indispensable, and sometimes necessary three times within twenty-four hours from the attack; and there may even be occasion to repeat it on succeeding days, particularly if fullness and hardness of the pulse be present. Leeches may be of great service after the use of the lancet; but the surgeon who trusts to them alone, however liberally applied, will be wofully disappointed in the result. The patient should also be immediately put upon calomel and opium, so as to affect the mouth in a few days. For this purpose two grains of calomel and half a grain of opium may be given three times daily, till the desired effect be produced.

Antiphlogistic treatment must in every respect be attended to, but general bleeding, calomel, and opium, are the great means of cure. From blisters I have seen no benefit till the inflammation was on the decline. Warm emollient poultices to the eye will relieve one individual; cold evaporating lotions will do good to another, in whom warm applications might be injurious; but upon the whole, the benefit from local applications to the eyeball itself in traumatic iritis, is, in my opinion, so trifling, that I seldom make use of them.

Mercurial ointment strongly impregnated with opium, may be rubbed upon the eyebrow morning and evening: the opium thus applied certainly alleviates pain—whether the mercury adds to its virtues, seems to me uncertain; but it is strongly recommended by oculists of the first eminence. The belladonna may be daily rubbed on the temple and eyelids, and the edges of the latter daily cleaned with tepid milk and water. When the disease becomes chronic, the vinum opii will be of great use. It is proper to observe, that the nocturnal hemicranial pain often continues unsubdued when the acute inflammation has subsided. In such cases, particularly if the individual be relaxed and feeble, wonderful benefit is derived from the use of bark. It would seem to destroy the irritability and morbid action of both the vascular and nervous systems, as is ably stated in John Hunter's work on inflammation, and this is a point of practice which we perhaps overlook too much in the treatment of inflammation, particularly of the traumatic species.

Iritis traumatica is seldom removed in less than three weeks; and after the operation of keratonyxis, it often assumes a chronic form, lasting for two months.

II. *Catarrhal-rheumatic Iritis.* This is the species most frequently met with in this city. It invariably originates either in a catarrhal or in a rheumatic state of the constitution; and hence two varieties of the disease are met with, the one attended with the usual symptoms of general cold, tending to rheumatism, by which I mean general soreness of the muscular system, accompanied with more or less synocha, a form of catarrh we are all acquainted with; the other variety occurs in individuals who have had frequent rheumatic attacks, and possess what has been called the rheumatic diathesis. Such people are seldom free from a rheumatic action in some part of the body, and it is often suddenly translated to the eye.

In the former variety, which I think may with propriety be called catarrhal-rheumatic iritis, the sclerotic zone of inflammation is often masked by inflammation of the conjunctiva, yet by careful examination it is discovered shining obscurely through. The conjunctiva of the palpebræ is also more affected than it is in the other cases of iritis. The pupil early becomes muddy, and the cornea loses its lustre. The pupil is often for some days rather above than below the natural size, and afterwards contracts, as described in the second degree of iritis. On comparing the iris with that of the opposite eye, a change of color is observed. Supraorbital pain almost always attends. This is the iritis which so frequently occurs during or after the exhibition of mercury, in consequence of this medicine powerfully predisposing the whole body to catarrhal and rheumatic affections.

The symptoms of the second variety, viz. the rheumatic, are the same, except there is often very little conjunctivitis present, showing that the disease is almost wholly confined to the internal structures. Both varieties of this disease may run a very tedious course without completely destroying vision, leaving, however, in all cases when neglected, more or less organized lymph in the pupil, injuring vision. I have never observed pustules on the iris in this species.

Treatment. In the first variety, repeated venesection is necessary, to be succeeded by the liberal application of leeches to the brow and temple. In the second variety, general bleeding does not require to be carried so far, leeching and cupping the temple being for the most part sufficient. The degree of synocha present must guide us as to the extent and kind of bleeding. It is in the catarrhal-rheumatic iritis that I consider the mercurial treatment often more injurious than beneficial, unless the patient be in circumstances to leave off all employment and keep his bedroom. Mercury, no doubt, has hardly affected the mouth in these cases, ere the symptoms in many instances abate; but on the first exposure to the slightest cold, as from a currrent of air, a change of the head dress, or the like, the disease may recur with redoubled fury, and may thus be prolonged for months. I experience similar inconvenience from diaphoretics, which, though they afford relief during their operation, favor the production of relapses, and thus prolong the affection. Those not conversant with this disease can hardly imagine how readily cold tells on the eye. Leaving one room, and sitting for a few hours in another, larger, and not so warm, removing the linen compress from the eye, or throwing off the nightcap, will, in delicate habits, often produce a relapse. For these reasons I avoid the exhibition of mercury to the poor affected with this disease, and often even to the rich. In all cases when it can be accomplished, the patient should be confined to the house, and when the case is severe, to bed. The chamber should be darkened, and have a moderate fire in it in winter. After sufficient general and local bleeding, a large opiate should be given every night, so as to overcome pain, and as much salts in the morning as will open the bowels moderately. Small doses of nitre and cream of tartar should be given every two or three hours, and the diet must, of course, in both varieties, be antiphlogistic. Belladonna should be freely applied every day around the eye, a band of flannel should be constantly worn around the head, and several folds of linen over the eye, to prevent the effects of atmospheric changes on the neighboring parts. A blister behind the corresponding ear, or on the neck, is of more service in this than in any other iritis. During the nocturnal paroxysms of pain, much relief is obtained by fomenting the eyelids and parts around with flannel cloths, wrung out of hot water, or an infusion of tobacco leaves, taking care to leave the parts dry, and to replace the linen compress, previously heated at the fire. Lotions will be found worse than useless, but the vinum opii is serviceable in the decline of both varieties.

In spite of the best treatment, the inflammation in the catarrhal variety will last from two to four weeks, and the dimness of vision longer; and I have seen the inflammation in the rheumatic variety, in constitutions where the rheumatic diathesis was strong, resist all measures for more than two months, the eye being nearly well one day, and the next, without apparent reason, being as bad as ever, just as is observed in rheumatism of a joint. In obstinate cases, therefore, of this variety, much more is to be done by remedies likely to remove the general rheumatic tendency, than by applications to the eye itself. I have often seen, however, great benefit from a rubefacient compound of laudanum and tincture of cantharides daily rubbed on the brow and temple, so as to keep up an irritation there. Though considerable blindness may remain long after the cessation of inflammation, it is wonderful what may be effected by a persevering use of the belladonna, by means of which, and the operation of the absorbents, good vision is always restored, provided the case has come under suitable treatment before the lymph has become organized. A weak ointment of red precipitate, about ten grains to the ounce, introduced once daily, is much recommended by German oculists, and seems to promote the action of the absorbents. From having treated a great variety of cases of rheumatic iritis, I can affirm that though it is often more obstinate and prolonged than either the traumatic or venereal species, yet the effusion of lymph is slower and less copious, consequently a great degree of membranous cataract and complete closure of the pupil are not very common results.

Some people of confirmed rheumatic habits, suffer exceedingly from one or more attacks of this disease every year, each succeeding attack leaving the eye in a worse state. Sea bathing in summer is sometimes of use in preventing relapses during the winter. I am acquainted with one gentleman who for more than ten years has been troubled with this disease, but who always escapes it when he passes the winter in Italy.

III. *Venereal Iritis.* This species is next in frequency of occurrence to the catarrhal-rheumatic. It is the consequence of constitutional syphilis or pseudo-syphilis, and, according to my observation, more frequently of the latter than the former. The skin or throat is generally affected at the same time, though the iritis sometimes gives the first warning that the constitution is contaminated, and is succeeded by the other symptoms. Cold is often the immediate exciting cause of this, as well as of other constitutional symptoms of lues. One eye is generally affected first, and if antisyphilitic treatment be not adopted, the other is afterwards attacked.

The diagnostic symptoms of iritis already given are all strongly marked in this species. The sclerotic wreath of inflammation is strongly marked, and is of a brownish red or cinnamon color; but there is one sympton often wanting in the others, which in this exists to a degree almost diagnostic of the affection at first sight—I mean small pustules (condylomata) on the anterior surface of the iris. The annulus minor, or pupillary border, is the chief seat of these; they may be one or two in number, or they may encircle the whole pupil, project into it, and in a manner block it up. They vary in size from that of a pin's head to a split pea, in some instances approaching and even touching the cornea. At first they are of a brownish red or chocolate color, but as they advance in size they whiten or become yellow at their apices, burst, and sometimes throw out pus into the anterior chamber, forming hypopion. Besides the changes in the pupil already mentioned, it is dragged upwards and inwards in the direction of the root of the nose. It need not be wondered at, if in this state red vessels are seen crossing the iris, and if in other parts it appears as if speckled with blood spots.

There is reason to think that condylomata sometimes form on the posterior surface of the iris, pushing it forwards, and sometimes even forcing a passage between its radiated fibres into the anterior chamber. This appearance is, at all events, occasionally met with, and is caused either by a condyloma or an accumulation of puriform lpmph in the posterior chamber, from which it must get an exit either through the iris into the anterior chamber, or through the tunics of the eye posterior to the iris.

When syphilitic iritis is severe, the cornea, as in the other species, loses its lustre. It assumes the appearance of the surface of a mirror on which the breath has been blown, which is often one of the earliest indications of inflammation of the cornea. In still more severe degrees of the disease, even red vessels may be seen in its substance.

The pain in the eyebrow and head in this species, like other syphilitic pains, is more strictly nocturnal than in the other species, and is sometimes very agonizing. I have already remarked that particularly in the early stages of iritis, the pupil is in some rare cases rather enlarged than contracted. I have noticed this more frequently in the venereal than in any other species, the pupil in some instances being as large as in common amaurosis, the centre remaining black, and the circumference surrounded by a string of condylomata. In these cases, though part of the pupil is pretty clear, the patient sees almost nothing, proving that the retina is materially affected, probably by deposition in its tissue, or on its surface. I have seen patients who were insensible to light in this state, and yet completely recovered by the use of mercury. I have seen the auditory nerve affected simultaneously with the retina by lues, and simultaneously cured by mercury. The terminations of this species, are generally what have been described in the third degree, provided the disease is not counteracted by suitable treatment, though I have seen pseudo-syphilitic iritis terminate without any considerable destruction of the eye, in cases where the patients, ignorant of the real nature of their disease, had not been treated by mercury. In the great majority, however, of cases of venereal iritis, unless the constitutional cause be overcome by mercury, the disease will end in closure of the pupil, obliteration of the anterior and posterior chambers, and perhaps even in suppuration and general sinking of the eyeball.

It cannot be expected that the exact mode of managing mercury in these cases should be treated of here. It must be given as for any other constitutional lues, and the course conducted in a steady manner, and in a more or less severe degree according to the state of the symptoms, avoiding, if possible, the unnecessary misery of violent ptyalism. It is often, of course, necessary to continue the mercury long after the cessation of the iritis, in order to secure the constitution. As before stated, besides the internal exhibition of mercury, mercurial ointment in combination with opium, may be rubbed in the supraorbital region. It is also necessary to exhibit opium internally, in order to alleviate the violent dolores osteocopi.

Judging from my own experience, I differ decidedly in opinion from those who put their whole faith in mercury for the cure of this species, to the exclusion of the other remedies, such as bleeding, blistering, &c. In my own practice, I have seen the disease running on with rapid strides to dangerous hypopion, notwithstanding the full action of mercury, and its further progress at once arrested by a full bleeding from the arm and a blister on the hindhead. Local bleeding will, however, be more generally required than venesection, for the constitution is often much broken down in such cases, by previous courses of mercury, venereal hectic, &c. When the inflammatory symptoms are fairly on the decline, the vinum opii will be serviceable here as in the other species; and the belladonna may be applied throughout the disease, and continued for months after the inflammation is gone, provided there be any hope of the pupil dilating and the vision returning.

This species leaves the eye more tender and subject to relapses than any other. For months, or even years, after a violent, protracted, or ill treated attack, the sclerotic circle of inflammation may be excited by exposure to cold, or even by sudden changes of weather; and for the same reason, the formation of an artificial pupil, when this has been required from previous venereal iritis, is generally followed by such a degree of inflammation as to frustrate our efforts to restore vision.

It was my intention to have now proceeded to the consideration of the scrofulous and arthritic species. Of the former I have seen no description in books, though it is a disease I have frequently met with. The latter, again, is a disease much talked of in the German schools, but of which I have seen few well marked cases. As this essay, however, has already exceeded in length the generality of those read to this society, I must for the present relinquish the subject of iritis.—*Glasgow Medical Journal.*

Case in which the operation of Lithotritie was successfully performed by Robert Liston, Esq., one of the Surgeons of the Royal Infirmary of Edinburgh, Lecturer on Surgery, &c.

Andrew Leechman, aged seventy, was admitted into the Royal Infirmary on the 10th November, 1828. He stated that for five months past he had been laboring under all the symptoms of stone in the bladder. On sounding him, a stone was distinctly felt. As he had a great aversion to being cut, and as his urine seemed to indicate a diseased state of the bladder, it was thought advisable to break down the stone, in preference to the usual operation.

On the 13th November, a solution of opium having been injected into the bladder, Mr. Liston introduced Civiale's instrument, but, owing to the restlessness of the patient, and the irritable state of the bladder, did not succeed in grasping it completely. Several small portions of stone, however, came away in the fangs of the instrument, and during the night. He suffered no inconvenience from the operation.

On the 15th, he passed a barleycorn incrusted with calcareous matter. On the 16th, a piece of straw with the same incrustation. He complained of pain in the testicles. On the 18th, a small abscess having formed in the scrotum, it was opened.

The instrument was again introduced on the 25th. The stone was fairly laid hold of, but was so soft that it was crushed by the instrument; on withdrawing which several fragments of seeds were found adhering. He now confessed that while reaping during the last harvest, he had introduced a number of barleycorns into his urethra, but would not say for what purpose.

The patient had repeated attacks of retention of urine after the last operation, from the larger portions of stone lodging in the urethra. He passed in all thirteen fragments, having entire barleycorns for their nucleus, besides a much greater number, having only small pieces of the beards. He had now little pain, and the quantity of mucus in his urine was inconsiderable. He was sounded several times, and as nothing was felt in his bladder, he was dismissed cured on the 16th December, 1828.—*Edin. Med. Jour.*

Spontaneous Cure of Femoral Aneurism, aided by Pressure.—John Leavy, aged forty-five, laborer, was admitted into Winchester County Hospital with a large femoral aneurism of the left extremity. He had been in the hospital two years previously, under Mr. Lyford, at which period he underwent the operation of having the right crural artery secured for a popliteal aneurism. The patient's account of his present affliction is as follows: In June last, while in the act of mowing, he felt something give way, or (as he expressed himself) snap in his thigh, which was productive of such excessive pain as to entirely prevent him proceeding with his employment. From this time a pulsation or throbbing commenced, which became so much aggravated at night as to deprive him of sleep. A very short time elapsed before a small tumor became distinct at the place where he felt the pulsation, at the lower anterior and internal part of the thigh, which has gradually increased to its present enormous size, being four or five inches in circumference; circumscribed rather than hard, and can be almost entirely reduced by pressure on the artery above. The whole extremity much enfeebled, and he is quite incapacitated from moving without a stick or crutch. As he was desirous of making some domestic arrangements prior to his coming into the house, he became an out patient. He was requested to make moderate pressure on the part by means of a flannel roller, and to keep himself at home perfectly quiet.

September 27.—He was made an in patient. On examining the thigh, the tumor was found to have greatly subsided, and to have lost all pulsation, which, according to his statement, had taken place three days previously. He had experienced a most decided diminution of pain from the pressure of the bandage, which he therefore increased from time to time by tying a handkerchief very tight around the thigh, the knot of which was directly over the centre of the aneurism. Since the pulsations have ceased, he has felt exactly similar sensations to those with which he was troubled after the operation on the opposite limb. He now complains most severely of a burning heat immediately under the skin, which he compares to boiling water trickling down his foot and leg. May not this disordered feeling be connected or depend on the circulation of the parts below the aneurism being carried on by the more superficial vessels?

The pressure has been reapplied by means of a tourniquet and splint. The temperature of both feet exactly correspond.

October 8.—On removing the apparatus by which the pressure had been applied, all appearance of swelling had entirely vanished, and every vestige of disease removed. The knee joint is now capable of the most perfect flexion and extension, and the patient enabled to walk without any support, and without inconvenience. He was therefore discharged cured.—*Provincial Gazette.*

*Successful Removal of a portion of Diseased Bone from the Os Calcis.**—John Alison, æt. 21, admitted to the Edinburgh Infirmary on the 27th October, "states, that nine years ago he sprained his left ankle. There have been at different times sores formed, which healed up without any bone being discharged. Ten weeks ago received a slight injury, when it again swelled, and several abscesses formed and burst; one small piece of bone was discharged. There are three sores situated on the outer, and the same number on the internal malleolus. On probing the sores on the outer side, the os calcis is found carious, and the probe appears to enter the joint. The bones opposite intersected on all sides by sinuses. Health and appetite good at present. Motion of the joint not impaired."

On the 3d of November, "a considerable portion of the os calcis was removed by Mr. Liston, and the cavity stuffed with lint."

Very little pain or swelling succeeded to the operation; a poultice was applied over the dressings. On the 13th, a seton was drawn through the diseased part of the foot, and on the 4th of December it was reported that "no dead piece of bone can now be felt; granulations healthy; general health good."

About the beginning of January the sores were nearly all healed. Some soft swelling remained about the ankle, the motions of which were perfect. It was done up with plaster and bandage, in the manner recommended by Mr. Scott, of the London Hospital, and the patient dismissed.—*London Medical Gazette.*

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* From Dr. Ballingall's Clinical Lectures. This will account for the intermixture of narrative and comment.—E. G.

Removal of a large portion of the Head of the Os Calcis.—Alexander Beveridge, æt. 15, admitted on the 25th of November, "states that 18 months ago, a swelling began to form over the left os calcis on the inner side. This broke, and discharged a quantity of matter. Two small pieces of bone have been discharged. There is a fistulous opening below the malleolus, leading down to the bone, which is bare; the motions of the joint are perfect; health good."

On the 28th it is reported that "a large portion of dead bone was removed yesterday by Mr. Liston, with the assistance of the trepan; slept badly; some headache; pulse 180; skin rather hot; tongue clean; bowels open; no swelling of limb."

On the 2d of December "dressings were removed; sore looking well; health good."

From this time forward I find nothing of any importance noted in the journal; the patient's health continued good under the use of animal food and porter, the sore granulated kindly, and on the 14th of January he was dismissed cured.

These cases, gentlemen, I have been induced to bring to your recollection, because, although they offer nothing very striking in the detail, they are well calculated, in my opinion, to encourage a more successful practice in a class of cases which have frequently been (if I may use the expression) slurred over, and have too often been allowed to go on from bad to worse, until the patient's life has been brought into hazard, and has, perhaps, been ultimately saved only at the expense of his limb.—*London Medical Gazette.*

MIDWIFERY.

Case of Cæsarean Operation, in which both the Mother and Child were saved.—The operator in the following interesting case was Dr. Müller, physician at Löwenberg in Silesia. He was called in July, 1822, to visit a woman who had been two days in labor, and whom he found it impossible to deliver on account of deformity of the pelvis. She was 33 years old, only three feet tall, deformed in many respects, the legs and arms being disproportionately short, the forearms, thighs, and shins somewhat crooked, the pelvis flat from before backwards, the chest well constructed. The gravid uterus projected very much. The whole body, when he first saw her, was bathed in perspiration, and she complained less of labor pains, than of insupportable and continual rending in the lower pelvis. The pulse was very frequent and small; and the waters had been discharged for four and twenty hours. On examining *per vaginum* it appeared that the superior outlet of the pelvis was of the form of a fissure, the length of which, from the union of the *os ilium* and *os pubis* of one side to the other, was *four* inches, and the breadth at each end between $1\frac{1}{2}$ and $1\frac{2}{3}$ *inch*, at the middle between the prominence of the *sacrum* and *symphisis pubis* not above *two inches and a sixth.* The prominence of the *sacrum* gave the outlet the form of a heart posteriorly, and the shape of the anterior margin corresponded with that of the posterior. The *os uteri* had disappeared as usual, and was close upon the upper outlet of the pelvis. The soft integuments of the child's head were pressed as far forward as the outlet would admit of, but the head was not wedged in. The integuments were elastic, and the mother declared that she felt the movements of the child.

"Natural delivery was manifestly out of the question; and destruction of the child's head, although practicable, was fraught with danger to the mother, and besides could not be immediately resorted to, because the child was alive. Yet there was no time to be lost, as the woman's strength was greatly exhausted, and farther delay exposed her to the risk of speedy death. The cæsarean operation, then, appeared to be the only resource of art that remained." The patient readily gave her consent; and Dr. Muller, after the preparative evacuation of the bowels and bladder, proceeded to perform it in the following manner: At the first incision he cut through the integuments down to the tendinous expansion of the *linea alba*, beginning an inch below the navel, and ending an inch above the *symphysis pubis*. A small aperture was next made into the abdomen near the navel, the fore and middle fingers of the left hand were introduced into it, and the scalpel being then passed between them, the fingers and instrument were carried downwards till the requisite opening was completed. This was nine inches in length. The uterus now pressed forcibly forward, and many large vessels could be seen under its glistening surface. A part of the uterus was pinched up, and an incision, as long as that in the integuments would allow, was made through its parietes, where they were most free of vessels. Very little hemorrhage followed the wound, and care was taken to sponge all the blood away so long as it continued to flow. As soon as the incision was completed, the child pressed outwards, with its feet on the operator's left hand, and was immediately removed without difficulty. It was alive, healthy, vigorous, and weighed 7½ pounds. The navel string was secured in the usual way, and the placenta, soon afterwards, was removed by introducing the hand previously cooled in water. During this part of the operation, pressure was made upon the abdomen, to prevent the entrance of air into the cavity. The wound was now united by adhesive straps, and covered with charpie; a fustian belt was then put on and tightened. At the lower angle of the wound, an opening, an inch in length, was left without straps for the discharge to flow through. Meanwhile, the uterus was felt contracting in the usual manner, and formed a ball in the left flank.

A good deal of blood issued from the vagina after the removal of the placenta, and again after the dressing of the wound was completed. The patient was directed to remain in the supine posture, and care was taken to make every arrangement before the operation to ensure perfect quiet for some time after it. In the evening there was some fever, but no pain; and during the night she slept none. Next day the fever had increased, the pulse was very frequent, the thirst inextinguishable, the pain of the lower belly severe and constant, and she had snatches of sleep disturbed by startings;

but during the night she slept well. During the third day the fever and pain were moderate, the abdomen a little swelled; in the evening the fever increased; at night she had little sleep. On the morning of the fourth the fever was again moderate. The wound, which had suppurated, was dressed. In the evening the usual febrile exacerbation occurred, with increased swelling, but little pain. The straps having become loose, they were carefully removed, and fresh ones applied. The edges of the wound were hot, swollen, and florid. The secretion of milk had commenced. At night the patient slept well. On the morning of the fifth there was no fever, but it returned violently at midday, with smarting of the wound, and increased swelling of the abdomen. The fever moderated, however, in the evening, the lochia began to flow, and the patient again slept well. On the sixth the abdomen was greatly swollen, the purulent discharge great, the pain considerable, the lochia more abundant. In the evening her appetite improved, and soup was allowed. The dressings were changed. On the seventh there was little or no fever, her appetite was good, the pain and swelling had abated, and the lochia were more abundant. The wound was dressed, and it was found that two inches of it next the umbilicus had healed. From this time the suppuration continued so profuse for some days, that frequent dressings were required daily. The abdomen progressively diminished in size; the fever was inconsiderable; the appetite strong. On the eleventh tonics were administered, the treatment having previously been confined to the occasional administration of a clyster. On the twelfth the milk receded, and the pus had become less abundant, and of firmer consistence. On the sixteenth day there was not above an inch of the wound open; the pus was healthy and moderate in quantity; and the patient was able to sit up a little in bed. On the twenty-second she was allowed to leave her bed for a short interval; but her debility was very great. For another week she continued to improve; but for a few days after that, in consequence of her having removed to an uncomfortable lodging, and been restricted to an insufficient diet, the wound, which had nearly healed, became inflamed, and a black, fetid, tough, slimy fluid, was discharged from the belly. A change of quarters and diet, together with the use of cinchona, restored her former favorable state of progress; and on the forty-third day the wound was completely closed. Some weeks afterwards the surface broke out again, but in no long time it was finally healed up; and four years after the operation, Dr. Müller saw her in good health, which she said had not suffered any interruption after the healing of the wound. The child died of convulsions when three months and a few days old.—*Magazin. fur die gesammte Heilkunde*, 1828, *xxviii. i.* 146.

Puerperal Fever.—Dr. Cusack, of Dublin, has published some interesting observations on the diseases termed Puerperal Fever. He conceives that there are three species of this affection. 1. One of a decided phlogistic character, having its seat in the peritonæum, and exhibiting the specific marks of acute inflammation of serous membranes. 2. Inflammation of a low character, confined, for the most part, to the subserous and pelvic cellular tissue, accompanied with great prostration of strength, and fever of the lowest typhoid type. 3. Inflammation of a character intermediate between the two above mentioned, in some particulars resembling, and in others differing from both.

The *first species* is met with among patients of sound constitution, whose labors have not been of a description calculated to injure the vital powers. It may arise from exposure to cold, the use of improper food, &c., and its essential symptoms are, in the commencement, violent continuous pain, and exquisite tenderness of the belly, with constipation, hard incompressible pulse, and laborious respiration, caused by the efforts of the patient to prevent the action of the diaphragm on the inflamed peritonæum. In its advanced stage, there is rapid feeble intermitting pulse, regurgitation of the contents of the stomach, and tympanitis; occasionally, the pain in the belly ceases, and the patient complains only of a violent pain among the ribs, and respires like a person laboring under acute pleurisy. On laying open the abdomen after death, a considerable quantity of inodorous gas usually escapes, and an effusion of whey colored serum mixed with flakes, or large soft masses of lymph, is found. The intestines are coated and agglutinated to one another with lymph, and this appearance, although often diffused over the peritonæal investment of the whole of the abdominal viscera, is usually most conspicuous in the vicinity of the uterus. The cellular tissue of the lungs, the bronchial tubes, and sometimes the cavity of the pleura, contain serum, and occasionally, a coating of lymph is observed on the pleura.

The *second species* occurs principally in seasons which give rise to typhus fever, erysipelas, and other diseases of a low type, and in women, who previous to, or during delivery, have suffered from bad health, loss of blood, or moral circumstances of a depressing nature. In this species, pain is not necessarily present; in some of the most fatal instances it is even totally absent, except at the commencement, or, should the disease be of longer duration, towards its termination, and frequently, it is only by means of a very careful examination, and by making pressure with considerable force, that any abdominal tenderness can be detected. The pulse is characterized by excessive weakness and compressibility, the slightest pressure of the finger on the artery being sufficient to prevent the pulsation being felt at all; and so remarkably is this the case, that one of the most certain indications of the patient's improvement is the accession of some degree of strength to the pulse, along with an increase of resistance on pressure. The patient usually complains of extreme weakness, exhaustion, and want of rest, and occasionally in the most urgent manner begs for nutriment. The countenance is indicative of exhaustion and anxiety, rather than pain; the bowels are loaded, and their secretions vitiated. The tongue sometimes is white, at others its color is natural; occasionally it is of a bluish whiteness, as of cream spread over a dark ground, or, it is of a deep purple shade, as if painted with ink. In such cases the tongue is not at all coated or loaded, but the color appears to be seated in its papillæ, and when the disease manifests signs of amendment, a thick brown crust, like that observable in common fever, forms on the tongue. The temperature of the body is in general below the natural standard; in the progress of the disease there are irregular rigors, and towards its fatal termination the skin is sometimes covered with large purple spots. On dissection, the intestines and peritonæum are destitute of vascularity or traces of lymph, and the quantity of serum effused is small, of a dark aqueous or oily purulent appearance and resembling in some degree stale beer, but the peculiar and remarkable seat of disease is the cellular tissue uniting the peritonæum to the parietes and contents of the abdomen and pelvis. Two kinds of effusion are met with in those textures, one a reddish serum, occasionally so copious as to pervade not only the cellular tissue about the uterus, the pelvic cavity and the iliac regions, but even sometimes to distend the cells of the delicate cellular tissue, which connect together the two layers of the messentery. The other species of effusion is not of so fluid a nature, resembling jelly in appearance and consistence. This also occupies the cellular tissue, and is most conspicuous where the looseness of the peritonæum admits of freer effusion, as in the broad ligaments of the uterus. The uterus itself is softened and flabby, and dark colored softened patches are often observable on the intestines. The ovaries are sometimes enlarged to the size of a large apple, and converted into a soft mass of the consistence of coagulated blood. The thorax is also the seat of effusion, but presents no trace of lymph. Should blood have been taken from a person laboring under this affection, it does not exhibit the buffy coat, but forms a soft coagulum, broken up by the slightest violence.

The *third form* of the disease resembles the first, in being characterized by violent abdominal pain, tenderness, increased temperature, and the absence of weakness and collapse. It differs from each form, in the pulse neither possessing the hardness and incompressibility peculiar to the first, nor sinking into the weakness and softness of the second. Neither is its pathology characteristic. In some instances, there is the same copious effusion of serum and lymph as in the first species, and in others, a combination of the morbid phenomena of both forms has been observed.

In the treatment of the inflammatory form, the antiphlogistic regimen should of course be adopted in its fullest extent, and the constitution brought likewise under the influence of mercury. In using the lancet, the principle to be observed is to produce, with the loss of a moderate quantity of blood, an immediate and decided effect. In accomplishing this object, the peculiar condition of puerperal females demands some important modifications. The relaxed state of the abdominal parietes, and the removal of the pressure of the uterine tumor, in such cases, facilitates so much the occurrence of syncope in the erect position, that the practice of making the patient sit up during the abstraction of blood, is calculated to lead to mistakes of a very injurious tendency; and the plan which Dr. C. adopts, is that of opening the vein by a large orifice.

while the patient is in the recumbent posture. If she is strong and plethoric, he continues to abstract blood without altering her position, till a decided effect has been produced; and if, on the other hand, he is apprehensive of the patient's bearing the loss of blood badly, as soon as the quantity deemed sufficient is abstracted, he directs a change of posture from the horizontal to the upright, and thus induces syncope, without the chance of being, by its occurrence, prevented from abstracting the necessary quantity of blood.

In the second species of this disease, the employment of the lancet at any stage, or even of leeches, in most cases, only accelerates its fatal termination. Should the patient occupy an ill ventilated residence, measures should be taken for her removal, or to allow a free ingress of pure air. The bowels should be unloaded, and such medicine should be selected for this purpose, as, while it unloads the intestinal canal, will impart a healthy action to its mucous coat, and have the effect rather of exciting than of depressing the general system. With this view, from five to ten grains of calomel, followed in the course of two hours by a draught composed of about one drachm of oil of turpentine, the same quantity of cinnamon water, and a drachm of syrup of ginger, should be given. This draught may be repeated every two hours till the bowels are sufficiently evacuated. To remove the watchfulness which so materially aggravates the debility, two grains of opium, combined, when the debility is great, with camphor or ammonia, may be given. A liberal quantity of diluted wine should be allowed, flavored with cinnamon, or mixed with whey, or arrow root gruel; and chicken broth, carefully deprived of its fat, and taken in small quantities, may form a part of the patient's drink. The only admissible direct means of subduing this low species of inflammation, are blisters and mercurials. The excessive irritation which blisters sometimes produce, should be carefully prevented, and the depletory tendency of the mercurials guarded by opium.

In the treatment of the third species, while general bloodletting is to be considered inadmissible, from two to three dozen of leeches should, in every case, be applied to the abdomen, and their use repeated, or a blister applied, as circumstances indicate. The bowels should be opened by the means recommended under the second form, and the mercurial treatment afterwards adopted, while the dietetic treatment should be of the most decidedly antiphlogistic description. To be successful, however, our remedies should always be adapted to the exigencies of the disease; and although we commence the treatment of a case under the firm convictions of its requiring the management suited to one particular form, we should not be the less ready, on the disease assuming another type, to substitute that kind of treatment applicable to a species altogether opposite.

Dr. C. is of opinion that the low form of inflammation which obtains in the second species of this disease, if not the same, is at least a modification of that known by the term "diffuse cellular inflammation."—*Edinburgh Med. and Surg. Journal.*

CHEMISTRY.

Glucinum Yttrium.—In the 6th volume of this Journal, (p. 616,) we announced the discovery, by M. Oersted, of the metallic basis of alumina, whose existence was previously only hypothetical. Since that time the two remaining earths, glucina and yttria, have been proved to be metallic oxides by M. Wohler. The processes employed were similar to those which led to the discovery of aluminum. The following account of these, together with the descriptions of the metals, is from Brande's Journal, vol. 5, p. 195, for which the Ann. de Chimie is quoted. L. C. B.

Glucinum.—The glucina was prepared from beryl, and being mixed with charcoal and heated in a tube, chlorine was passed over it and chloride formed; this was obtained both in white acicular crystals and in a fused mass, and was very deliquescent. The chloride was placed in layers in a platinum crucible, with intervening layers of flattened potassium, the cover fixed on with a wire and the crucible heated in a spirit lamp. At the moment of reduction, the crucible became quite hot; when cold, it was opened and turned upside down into a large glass containing water, which dissolved out chloride of potassium and glucinum, and left the metal glucinum as a grayish black powder, which was then separated on a filter, washed, and dried.

In this state glucinum has the appearance of a finely divided metal, and when burnished acquires a dull, metallic lustre. It presents no appearance of fusion. It is not oxidized either in air or water at temperatures below 212° Fahr. Ignited on platina foil it burns brightly into glucina. In oxygen gas the combustion is very vivid, but still no signs of fusion. It dissolves when heated in the nitric, sulphuric, or muriatic acid, or in solution of potash. It burns when heated in chlorine, bromine, or iodine vapor, forming volatile chloride, bromide, or iodine. It also combines easily with sulphur, selenium, phosphorus, and arsenic.

Yttrium.—The yttria was obtained from gadolinite, and converted into a chloride by charcoal, chlorine, and heat, as before. The chloride is volatile, and resembles the similar compound of glucinum. It was found exceedingly difficult to obtain the yttria pure; and while forming the chloride, generally a little sulphur and potassium appeared in one or other part of the operation.

The chloride was decomposed by potassium in a crucible, as before, with vivid incandescence; and dissolving the result in water, the yttrium was obtained in small scales having a perfect metallic lustre and gray black color. It is easily distinguished from glucinum and aluminum by its metallic and crystalline appearance. When burnished it acquires a perfect lustre, but its color and metallic appearance do not equal those of aluminum—one is to the other, perhaps, as iron to tin. Aluminum appears to be a ductile metal; yttrium, on the contrary, brittle. Yttrium does not become oxidized by air or water at ordinary temperatures. Heated to redness in the air it burns into yttria; in oxygen it burns vividly, and then gives traces of fusion. It dissolves in sulphuric acid and in solution of potassa. It burns in the vapor of sulphur, producing a sulphuret. It forms a seleniuret and a phosphuret.

From these and former experiments it results, that the bases of alumina, glucina, and yttria are metals which, at ordinary temperatures, do not act upon air or water, but decompose water when acids or alkalies are present, and burn vividly in oxygen, chlorine, iodine, bromine, sulphur, selenium, and phosphorus.

Method of detecting Arsenic in Sulphur.—MM. Gieger and Reimann say, that the presence of arsenic in sulphur, to the amount only of 0.000061, may be discovered in the following manner. A certain quantity of precipitated sulphur, flowers of sulphur, or ordinary sulphur finely pulverized, is to be digested with ammonia for a considerable time, then filtered, and afterwards the clear liquid acted upon by excess of muriatic acid. If a yellow precipitate occurs, it is an indication of the presence of arsenic; if not, the liquid is to be evaporated until only a few drops remain. A little ammonia is then to be added; afterwards a small quantity of muriatic acid; and finally a little solution of sulphuretted hydrogen. If there be the smallest quantity of arsenic, it will be rendered evident by a yellow precipitate.—*Brande's Journal*, N. S. vol. 5, p. 192.

Peculiar Production of Ammonia.—M. Hollunder mixed liver of sulphur (sulphuret of potassium) and pure iron filings together, put them into a covered crucible, and exposed them to a high temperature. When the double sulphuret thus obtained was moistened with a little water, it disengaged abundant vapors of ammonia, and continued to do so as long as it continued hot.—*Ibid*, p. 189.

The fact above stated, at first sight, appears difficult of explanation. But it can be accounted for by the great affinity which the above compound, when moistened, has for oxygen; this causes the decomposition of the air and water, the oxygen of the former and latter combining with the potassium and iron, and the remaining hydrogen and nitrogen forming ammonia. A portion of sulphuretted hydrogen is probably also formed at the same time. L. C. B.

Sanguinarine.—A notice of this new vegetable alkali, discovered and described by the late lamented professor Dana, more than two years since, has at length reached the English journals through Hensman's Repertoire de Chemie. These journalists do not appear to have been aware that this discovery was made in this country, and by an American chemist, and that a detailed account of it, together with the processes by which it is obtained, was published in our journals in 1827. L. C. B.

Chemical Action of Light.—The following are some effects quoted by M. Fischer, as proper to be added to those which demonstrate the chemical action of light upon inorganic matter. If a solution of ferro-cyanate of potash be precipitated by alcohol, the precipitate collected and rapidly dissolved in water, and the solution exposed to light, the yellow color soon passes to green and ultimately Prussian blue is deposited. The solution at the same time becomes alkaline; and if the experiment be made in a close vessel, the odor of hydrocyanic acid may be observed when the liquid is examined. The salt, in fact, is in part decomposed by the action. Prussian blue, sometimes with excess of oxide of iron, is formed and deposited, and a hydrocyanate of potash left in solution. The same changes take place with the ordinary solution of the ferrocyanate, but more slowly. They do not take place without light.

The same salt crystallizes in large quadrangular plates in an obscure situation; but in bright light it gradually loses the power of yielding this form, and becomes dendritical and pulverulent.

The action of light upon solutions of gold and silver is very much increased by the presence of organic matters, as gum, starch, sugar, alcohol, &c. This effect, however, has been long known, and sometimes rendered available in experiments made upon the solar rays.—*Brande's Journal*, N. S. vol. 5, p. 188.

Efficacy of Ammonia in Counteracting Poison.—In the April number of Silliman's Journal, Dr. Austin Church, of Cooperstown, N. Y., states the following cases of the efficacy of ammonia in counteracting the poisonous effects of the stings of bees, insects, &c.

"A young man in this place had accidentally overset a hive of bees, and before he could escape, they had settled in great numbers on different parts of his body and limbs, and stung him severely. It was about half an hour after the accident happened when he came to my office in great agony, and he had scarcely time to give an account of it before he fainted. I immediately applied the ammonia to the parts that had been stung, his legs, arms, and breast. He directly recovered from his faintness, and experienced no pain or other inconvenience afterwards.

"It is several years since I first used the aqua ammonia, to counteract the effect of the bites of insects and stings of bees, and it has invariably produced instant relief—generally complete. I have often seen children crying in excessive pain from the sting of a bee, and on the application of the ammonia they would immediately cease complaining and become cheerful, so complete and sudden is the relief it produces. I always use it for musquito bites, and they never trouble me farther."

Action of Sulphuretted Hydrogen Gas on Solutions of Mercury. By M. Rose.—The precipitate obtained by the action of sulphuretted hydrogen on a solution of chloride of mercury remains long suspended in the liquid, to which it imparts a milky appearance; it is very difficult to filter, it dries readily, and then much resembles white precipitate of mercury. At a high temperature it is decomposed; if it be slowly heated in a glass tube closed at one end, chloride of mercury first sublimes, and afterwards sulphuret of mercury. This compound perfectly resists the action even of concentrated acids; it is only by heating it in nitric acid, and then adding muriatic, that sufficient action is exerted to convert all the sulphur into sulphuric acid.

When this compound is treated with chlorine gas and heat, chloride of sulphur is at first disengaged, and afterwards sublimate. The alkalies and their carbonates blacken it, especially with the assistance of heat: as the results of this decomposition, the liquid contains chloride of potassium and sodium, and the black precipitate consists of a mixture of oxide and sulphuret of mercury; there is no chloride of mercury, as has been supposed. The different analyses which I have made having given results almost identical with the data of calculation, this compound is formed of one atom of chloride of mercury = 36.8, and two atoms of sulphuret of mercury = 63.20. Thus, by the action of sulphuretted hydrogen on a solution of sublimate, there is first obtained sulphuret of mercury, which, combining with the undecomposed chloride, forms a substance insoluble in water. If the quantity of sulphuretted hydrogen be too great, all the chloride is decomposed, and all the precipitate is sulphuret of mercury.

Analogous phænomena are observed when a solution of bromide of mercury is similarly treated. The solution becomes milky; the dried precipitate resembles the former, except in being slightly yellow; it acts in the same way with the concentrated acids; the alkalies blacken it, but not so strongly: it is decomposed by heat into bromide of mercury and sulphuret of mercury. The composition of this body is analogous to the preceding; that is to say, it is formed of an atom of bromide of mercury, and two atoms of sulphuret of the same metal.

The iodide and fluoride of mercury, treated with sulphuretted hydrogen, furnish precipitates, the combination of which is absolutely analogous. The precipitate of the latter is white and heavy, and is distinguished from the others by being decomposed by boiling water, into fluoride and black sulphuret of mercury; when heated in a glass tube, one end of which is closed, it is resolved into fluosilicic gas and mercury; while at the point of the greatest heat sulphuret of mercury sublimes.

This precipitate is decomposed by concentrated sulphuric acid when heated (which does not occur with the others.) Treated simply with the alkalies, it becomes red; on the contrary, it becomes black when boiled with these bodies.

The mercurial oxisalts act with sulphuretted hydrogen in the same manner as the combination of this metal with bromine, chlorine, and fluorine. The precipitates which are obtained at first are white, and more readily deposited; they are also more easily filtered; they are composed of sulphuret of mercury, and a small quantity of the salt employed. Thus the precipitate obtained with nitrate of mercury is white; when heated in a glass tube, it yields a small quantity of sulphuret of mercury, which sublimes, much metallic mercury, nitrous vapors, and sulphuric acid; it acts with acids in the same manner as the precipitate furnished by the chloride; the alkalies give it first a yellow color, and finish by rendering it black; when heated to ebullition, it blackens immediately. It is formed of two atoms of sulphuret of mercury, and one atom of anhydrous neutral nitrate of mercury. The solution of cyanide of mercury is an exception to the general rule: in this, the smallest quantity of sulphuretted hydrogen occasions the formation of black sulphuret of mercury.—*Hensman's Repertoire*, Nov., 1928.

Discovery of the Mode of Making the Diamond.—At a meeting of the Academy of Sciences, on November 3d, M. Ganal stated that he employed phosphorus for the purpose of decomposing the carburet of sulphur, by which the carbon was set at liberty under the form of small crystals, having all the properties of the diamond, and possessing the power of cutting or scratching the hardest bodies. If sticks of phosphorus are introduced into a matrass containing carburet of sulphur, covered with a layer of water, as soon as the phosphorus comes in contact with the carburet, it dissolves as it would in water of 140° or 158° of Fahrenheit, and is precipitated to the bottom of the vessel. The mass then consists of three distinct layers: the upper part of pure water, the second of carburet of sulphur, the third of liquified phosphorus. If the liquor is agitated while in this state, so as to mix the different substances, it becomes milky and turbid, and after remaining some time still, it separates anew, but apparently into two layers. The upper is formed by pure water, and the lower by phosphuret of sulphur. Between these layers is a very thin one of white powder, and which, when the matrass is held towards the rays of the sun, produces all the effects of a prism, and, consequently, seems to be formed by minute crystals.

The author, encouraged by this experiment, endeavored to obtain more voluminous crystals, which he succeeded in doing by means of the following process: He introduced into a matrass, which was perfectly still, first eight ounces of water, then eight ounces both of carburet of sulphur and of phosphorus. As in the preceding experiment, the phosphorus first dissolved, and the three liquids took their stations in the vessel according to their specific gravities. After twenty-four hours, a very thin pellicle, consisting of a white powder intermixed with air bubbles and different centres of crystallization, was formed. After some days, these pellicles gradually increased in thickness. The separation of the two lower liquids became less distinct, and after three months they seemed but one substance. The experiment having been left in action for another month, it became necessary to discover the mode of separating the crystallized substance from the phosphuret of sulphur, which was difficult on account of the inflammable nature of the substance. After various trials, more or less successful, the author determined to filter the whole through chamois leather, which he placed under a glass bell, renewing the air from time to time. At the end of a month the skin was washed and dried, when M. Ganal was enabled to examine the crystallized substance which remained on its surface. Exposed to the rays of the sun, it presented numerous crystals, reflecting all the colors of the rainbow: twenty among them were large enough to be raised with the point of the knife; three others were as large as a millet seed. The latter were submitted to the inspection of M. Champigny, director of the jewellery workshops of M. Petelot, and they appeared to him to be real diamonds. M. Gay Lusac stated, that, to his knowledge, M. Ganal had been occupied in the same research for a period of eight years.

Five years since, in the month of January, 1824, M. Delatour deposited with the French Academy of Sciences a paper, whose contents were then unknown, but have since proved to relate to the manufacture of the diamond, and contain, we presume, the results of the first essays of this gentleman. The method is still a secret, and said to be essentially different from that of M. Ganal just described.

On the 11th of November, glass tubes were exhibited to the Academy, filled with diamond dust, or, (to speak more accurately,) carbon crystallized by art. The different specimens were not obtained by the same method. The chemical properties are the same, but in appearance and hardness they are strikingly different.

One of the tubes contains a very transparent small crystal, whose form is distinctly pyramidal. M. Delatour expects to present to the Academy crystals of four or five lines in diameter.

M. Arrago remarked on this occasion, that it would be easy to ascertain the nature of one of the crystals, as its "facettes" were sufficiently large to show the angle of prolongation. He stated, also, that a person of his acquaintance entertained a hope that the decomposition of carburet of sulphur by the voltaic pile would be successful. The defective conductibility of this substance had hitherto impeded the success of the experiment, but it is confidently expected that this difficulty will be overcome.—*London Medical and Physical Journal, Feb.*, 1829.

Nitrate of Silver as a Test for Vegetable and Animal Matter.—Dr. Davy states that nitrate of silver, dissolved in pure water, is not altered by the sun's rays. If the minutest quantity of vegetable or animal matter is present, the solution is discolored; and with common distilled water, the discoloration is strong. To prove that the cause of the change of color is the one assigned, it is sufficient to allow the colored matter to subside, decant the colorless solution, and expose it again to sunshine. However powerful the sun's rays are, no further effect is produced; but, add more common distilled water, and the phenomenon will instantly reappear. He believes nitrate of silver, thus used, is one of the best tests of the presence in water of very minute portions of vegetable matter: of course, any chloride of silver that may be formed in consequence of the presence of any muriates should be allowed to subside in the dark, and the subsidence should be complete before the fluid is decanted and exposed to light.—*Jameson's Journal.*

On the Presence of Iron in Tin.—From M. Fischer's experiments it would appear, that even the very best tin contains small quantities of iron occasionally, which, entering into the compounds afterwards formed by the metal, cannot be easily separated. The best method to decide upon its presence is to decompose a salt formed from the tin by ammonia, and separate the protoxide which is thrown down. This precipitate is then to be digested in cold muriatic acid; nearly all the oxide dissolves; but, if the portion which last remains be dissolved, it will be found to contain but little oxide of tin, mixed with a large proportion of oxide of iron. This portion, acted upon by warm and strong muriatic acid, will dissolve; and then the the iron may be recognized in the usual manner.—*Kastner*, *Bull. Univ.* A. x. 313.

Solubility of Corrosive Sublimate.—According to M. Karls, the solubility of corrosive sublimate in alcohol and ether is much increased by the addition of camphor.

At the ordinary temperature, four parts of ether dissolve one of corrosive sublimate, but if equal parts of camphor and sublimate be taken, three are found sufficient. If the proportion of camphor be increased, the following results are obtained:

4	parts ether and	4	of camphor dissolve	2	parts of cor. sub.
4	do.	8	do.	4	do.
4	do.	16	do.	8	do.

Again—three parts of alcohol dissolve one of corrosive sublimate; but if an equal weight of camphor be added, one part and a half of alcohol is found sufficient.—*Bull. Universal.*

MEDICAL JURISPRUDENCE.

Two Cases of Poisoning with Nux Vomica successfully treated.—The first of these cases is thus related by Dr. Basedow of Merseburg. A young lady who was suffering from toothache and headache, and thought it advisable to take a laxative for her complaints, swallowed, at midday, by mistake a table spoonful of powder of nux vomica which she found in the kitchen. She became alarmed on remarking its intense permanent taste; but did not call for assistance till she was almost instantaneously deprived of the power of walking and fell down; yet without losing recollection. Dr. Basedow saw her immediately after, and recognized the nature of the powder she had taken, by what remained of it. She lay in bed with the countenance pale, and exhibiting alternately an expression of indifference and anxiety; she alternately wept and smiled; the eyes were wide open, and the pupils contracted. The respiration was irregular and short, the pulse also irregular, small, not hard or frequent, the skin cool. The forearms were constantly in a half bent position, and the hands and fingers affected with convulsive twitches; the legs, on the contrary, were motionless, rigid, and all the muscles hard and tetanically contracted. The patient had not the slightest pain or sickness; but her breathing became every moment more difficult, and she complained of impending suffocation.

An emetic of five grains of tartrate of antimony, which had been sent for, was administered without delay; and in the course of ten minutes it operated, with the assistance of draughts of tepid tea, and tickling of the throat. After repeated evacuations of the stomach, the matters of vomiting came away without any powder; by which time the symptoms were somewhat relieved, especially the dyspnœa. Small doses of a mixture of oil of turpentine and sulphuric ether were then administered every half hour. In the evening the tetanic spasm of the muscles of the legs, as well as the convulsive movements of the hands, had ceased, and the respiration was free. For three days after, the patient had a clouded look, complained of a sense of bruising over the whole body, and of weariness and rending in the limbs, as if she had been fatigued by a long walk. The toothache and headache disappeared with the commencement of the symptoms of poisoning.

The other case is in some respects similar to that now related. It is described by Mr. Baynham of Birmingham. A girl, twenty years of age, swallowed half an ounce (avoirdupois) of powdered nux vomica, for the purpose of destroying herself. Half an hour after it was taken, Mr. Baynham was called to see her, and found "she had violent spasmodic contractions of the voluntary muscles, but more especially of the limbs, with extreme pain in all the parts affected. The spasm at times continued for three or four minutes, and was then succeeded by some quick change of position, or a long succession of convulsive motions. The muscles of the back were so much affected by spasm, as almost to render it a case of opisthotonos. Finding it impossible to retain her in a chair, she was placed upon a bed, and with the assistance of her neighbors preserved in that situation from local injury. The action of the heart was slow and feeble; the pulse somewhat indistinct, and beating, at an average in the first half hour, 50 in a minute. The surface of the body was cold, and uniformly wet with perspiration. The functions of the stomach and bowels not perceptibly disordered. She remained sensible through her illness. A strong solution of sulphate of zinc was administered with difficulty, since, with every desire to second the object in view, she could not avoid biting through the cup by an incontrollable action of the temporal and masseter muscles. A metallic vessel, which was then substituted, received the impression of her teeth. The emetic operated freely in a few minutes, but did not immediately relieve the symptoms. Abundant portions of gruel, and a large dose of castor oil, constituted the whole after treatment. The pulse, at the expiration of two hours, averaged 70, and had become firm. The convulsions gradually subsided, and finally ceased in about four hours from the period of attack, after which she slept, and awoke early in the evening without any other feeling of illness than what resulted from exhaustion. The next day, although still feeble, she could walk from home."—*Journal der Praktischen Heilkunde.*

Disfiguring of the Countenance.—Hugh Macmillan, and his wife, Euphemia Lawson, were indicted under the statute alluded to on the 17th December, 1827, for maiming, disfiguring, and disabling Archibald Campbell, by throwing sulphuric acid over him on the 17th of the previous October. The indictment likewise contained a separate charge of murder against them; but, for reasons to be mentioned presently, this charge was afterwards departed from by the public prosecutor.

The facts of the general evidence by which the crime was brought home to the female prisoner, were the following: The Macmillans, who lived in the same stair with Campbell, had long been on bad terms with him; and a few days before he met with the accident, the woman was bound over to keep the peace towards him; on account of which both she and her husband had been repeatedly heard to vow vengeance in the most malignant language. The female prisoner was proved to have obtained, shortly before the commission of the crime, information concerning the corrosive properties of sulphuric acid; and in consequence, hinted that she would some night try its effects on Campbell's cloak, after her husband was asleep. Early on the evening of the 17th October, she was seen to carry out and return with a particular jug, which she placed under the bed, cautioning her children not to meddle with it. Towards midnight, Campbell, on his way up stairs to his lodgings, had approached Macmillan's door, when the door opening a little, he observed a female arm thrust out, holding something white; and under the impression that some mischief was intended him, he was in the act of turning round to retreat down stairs, when a liquid was thrown over him, which, by the intense burning pain it caused, he at once suspected to be oil of vitriol. The alarm being instantly given, the police in a few minutes entered Macmillan's room, where the woman was found dressed, and her husband only dressing himself, as if just raised out of bed. No trace of sulphuric acid could be discovered in the room. But between the alarm in the stair and the arrival of the police, a person who lived in the floor under the Macmillans, heard their window open, and something immediately break on the pavement below. Accordingly, in the *close* under the window were found the fragments of a jug like that which the woman had been seen carrying early in the evening; and these fragments had a sour taste and smarted the tongue. A large quantity of sour tasted liquid was also found on the stair and wall between Macmillan's door and the spot where Campbell stood at the moment of receiving the injury. By a complete chain of circumstances, therefore, though not by any direct proof, the act of throwing the deleterious liquid was traced to Macmillan's wife.

Campbell was without delay transported to the Infirmary, where he arrived about two in the morning. His state at this time, and the progress of the symptoms till his death, twelve days afterwards, were described by Dr. Hunter, the surgeon, and Dr. Nesbitt, the surgeon's clerk of the hospital, in a report which was libelled on in the indictment, and from which, chiefly, the following particulars have been derived. The skin on the left side of the face was partially removed, and the whole presented at first a white disorganized appearance. The eyelids of both eyes were much inflamed and swollen, and the left eyeball was also severely involved in the mischief, but the right eyeball was uninjured. The skin of the inside of the lips was also white and swollen, and on the back of the left hand, as well as between the fingers, there were white excoriated streaks. In the course of sixteen hours the white marks turned brown. The pain of the face and eyes, which was at first excruciating, became easier under the use of suitable applications. But as at the time of the visit, about twelve hours after the accident, the pain of the left eye, extending to the head, evidently threatened a severe ophthalmia, he was bled from the arm, and next day the operation was repeated. From these measures he derived great relief. The inflammation and disorganization of the eye, however, went on increasing, and soon ended in the bursting of the cornea and discharge of the aqueous humor and crystalline lens. Towards the close of the fifth day, namely, on the evening of the 22d, while apparently doing well, he had a shivering fit, and next morning complained of acute pain at the bend of the right arm, where he had been bled. Inflammation immediately sprung up around the orifice, general swelling of the arm came on, and progressively increased for the three following days. Severe febrile symptoms ensued, and afterwards also difficult breathing, with other signs of pulmonary inflammation. Under these complicated disorders he gradually sunk, and died on the morning of the 30th October. The report concluded with ascribing his death to the inflammation of the arm, and concomitant fever.

The body was examined on the following day by Dr. Hunter and the late Dr. Cullen, whose report of the appearances is here given in detail.

"On Saturday the 31st October, we inspected the body of Archibald Campbell, who died in the Royal Infirmary on the morning of the 30th.

"The right arm was carefully examined and anatomized. We found the vein from which he had been bled very highly inflamed at the wounded part at the bend of the arm. From this point the inflammation had extended upwards to the great vein of the arm and shoulder, and downwards to the small veins of the forearm. These vessels were almost filled with purulent matter, and partly obliterated. The great veins at the upper part of the chest were natural.

"There was a small quantity of serum in the cavity of the membrane which invests the heart, but that organ was itself sound.

"The membrane which covers the lungs and ribs, called the pleura, was inflamed, and covered at the back part with the usual product of inflammation. Sero-purulent fluid was found in both cavities of the pleura. Both lungs, when cut into, were found very highly inflamed, and particularly in the upper and lower lobes."—[I may here add in explanation, that both lungs were most extensively consolidated by serous effusion, red hepatization, and diffuse tubercles, intimately intermingled; and that the last morbid deposition was distributed in irregular masses, some of them of the size of a pigeon's egg, so as to occupy not less than a third part of the entire volume of the lungs.]

"The left eye had its anterior part entirely destroyed. Some of the humors [the aqueous humor and crystalline lens] had escaped, and the whole organ was disorganized, and incapable of recovery.

"Water was found in considerable quantity on the surface, in the cavities, and at the base of the brain. That organ itself was natural. No other morbid appearance was any where observed.

"Upon the whole, we are of opinion that Archibald Campbell died of inflammation of the veins of the right arm, and of inflammation of the lungs, the former caused, according to the best of our judgment, by the wound of the vein in bleeding." *Signed, &c.*

To complete the medico-legal investigations in the case, it only remains for me to mention the chemical analysis of various articles of the man Campbell's dress, undertaken at the request of the authorities by Dr. Turner, now professor in the London University, and myself. The nature of the corroding fluid employed by the prisoner might perhaps have been presumed from the foregoing particulars of the evidence; but the public prosecutor considered it right not to leave any part of so novel a case without throwing all the light possible on it. It may be worth while, therefore, to relate our experiments in detail; and not only because they exemplify the mode of procedure in parallel instances, but likewise because they supply, in my opinion, the best process for the detection of sulphuric acid in the contents of the stomach of those who have been poisoned with it.

The articles analyzed, were put into our hands a fortnight after the acid was thrown upon them. They consisted of a portion of the rim of a hat, affected here and there through and through—an uninjured part of the same hat for comparative analysis—part of a black stock with its lining and stuffing, all much destroyed—part of the sleeve of a brown coat and its lining, likewise corroded and reddened—and an uninjured part of the same coat for a comparative experiment. The hat and stock, where affected, were moist, and sour to the taste.

The injured part of the hat was boiled in small fragments with distilled water, and a reddish brown fluid procured by filtration. This fluid had an acid taste, reddened litmus strongly, and yielded with acetate of baryta a copious brownish precipitate, which was rendered white by nitric acid, and being then collected and dried at a red heat, weighed 4.3 grains. A small portion of this powder being mixed with a little charcoal, it was heated for two minutes in a platinum spoon before the blowpipe. The product, when dilute muriatic acid was poured on it in a tube, effervesced and emitted an odor of sulphuretted hydrogen, the evolution of which was farther proved by a piece of filtering paper, moistened with solution of acetate of lead, becoming black when suspended within the tube.

We then proceeded to make a comparative set of experiments with the uninjured portion of the hat. A reddish brown fluid was procured, which faintly reddened litmus, and gave with acetate of baryta a scanty cloud, insoluble in nitric acid, but not forming any deposit when left some hours at repose.

The injured portion of the stock was torn into shreds and treated in the same manner as the injured part of the hat, with precisely the same results. The sulphate of baryta procured from it weighed nine grains.

The injured portion of the coat sleeve and lining was also subjected to the same process, except that the barytic precipitate was collected by the process of subsidence and affusion, without a filter, as it was scanty. The results of the experiments with it were precisely the same as those mentioned above, and they were all procured characteristicly, although the sulphate of baryta formed, did not exceed nine tenths of a grain. A comparative analysis was made of an uninjured part of the sleeve; but the aqueous fluid only tinged litmus faintly red, and yielded with acetate of baryta a faint cloudiness with a deposit.

These experiments made it certain that the fluid used was sulphuric acid; and a short report was accordingly drawn up to that effect.

I need hardly add that the female prisoner, Euphemia Lawson, was found guilty, her husband not guilty. She was consequently condemned to be executed; but as it was the first condemnation under a new statute, her sentence was afterwards commuted for perpetual banishment.

A single particular in the foregoing account of the trial, requires a few observations.

It has been already remarked that the indictment contained a separate charge of murder, from which, however, the lord advocate departed at the commencement of the trial. This he did, because, while it was quite certain that the evidence would establish another capital offence, his entering on the charge of murder would involve a nice legal question, as to the responsibility of the prisoner for an event which depended only indirectly on the injury inflicted by her, and directly on an insignificant surgical operation. The question, however, must be understood as having been waved, not decided. The decision of it of course will not lie with the medical witness. But it may be right for him to understand the nature of the evidence, which, in a similar case, might be required from him, with a view to its decision in the proper quarter. Now in charges of homicide, although it be proved that the injury inflicted by the prisoner occasioned death not directly, but indirectly, through the medium of a cause coming into action after the injury, the prisoner will nevertheless be held responsible, provided the injury was serious, and it shall appear from the intervention of the secondary cause, though not a common event, lay in the natural course of things. Hence, if a person, after receiving a serious injury, should die of hospital gangrene, caught by his repairing to an infirmary where it was prevalent, or of diffuse subcutaneous inflammation, arising in consequence of there being at the time an epidemic tendency to that affection, or even of tetanus, a disease of the supervention of which we can neither trace the causes, nor calculate the probability,—in all these circumstances, would not the person who inflicted the injury be held responsible for the event? This appears to have been laid down in regard to tetanus, in the case of Alexander Mackenzie. The medical evidence showed that tetanus, though an effect of wounds, neither necessary, nor common, nor such as may be anticipated, is a consequence not sufficiently *accidental* to relieve the prisoner from responsibility, if the injury was severe and his purpose deadly. Does inflammation of a vein arising from phlebotomy—that operation being rendered imperatively necessary by the effects of an injury—belong to the description of accidents here enumerated? Most surgeons, I conceive, would reply, that it lies at least as much in the natural course of events, as tetanus. Neither tetanus nor phlebitis is common after an injury, and neither would ever be held in view by a surgeon in forming his prognosis; but if there is any difference, the latter is on the whole the more common. Can phlebitis be considered a less natural event in the sequence of effects, merely from the circumstance that an operation is necessary for its development, provided the operation become absolutely imperative in consequence of the direct results of the injury? It must be admitted that these are all questions of great nicety, and difficult determination.—*Edinburgh Med. and Surg. Journal.*

THERAPEUTICS.

New Remedy for Tape Worm.—The Prussian government has lately conferred on Dr. C. A. Schmidt of Berlin, an annuity of 200 dollars for the discovery of a remedy against tape worm. The remedy, before its nature was made known, underwent rigorous trial by physicians appointed for the purpose; and their report having been highly favorable, the prescription was communicated by the discoverer, and the drug, prepared according to his direction, was again subjected to trial with equally prosperous results. The opinion of Dr. Natorp, the first reporter, was, that the remedy "might be administered safely to persons of the most delicate constitution; that in twenty-four hours, at the utmost, it brought away the worm; that it required very little preparative treatment, and that its operation was not more exhausting than that of a common purgative." He tried it in seven cases, some of them of long standing and great obstinacy. The first was a middle aged woman who had been several months ill. In her the third dose of the drug brought away two entire worms; she suffered little inconvenience at the time, and soon recovered her health entirely. The second, a child nine years old, who had been affected for three years, likewise passed a tape worm after the third dose, suffered little, and soon got quite well. The third, a young lady, with symptoms which imitated phthisis, began to take the remedy at six in the morning; at four in the afternoon she passed a long worm; and at six the operation had not left the slightest trace of weakness. The fourth, a case of four years standing, likewise got well immediately after passing a long worm. The fifth, an elderly female, had not continued to take the medicine five hours, before she passed three perfect tæniæ; and her son, after using it for twenty-four hours, passed one eight yards long. The seventh case was a child thirty months old, who was made to evacuate a worm in twelve hours. According to the report of Drs. Kluge and Neumann, who were also charged with experiments on its efficacy, "it never failed to bring away a worm when there was a certainty of its presence; at the same time it was rapid in its operation, quite free from danger, not debilitating, and it expelled the worm alive and entire."

With these high and disinterested commendations before us, we should be doing Dr. Schmidt's plan of treatment injustice, if we did not detail it exactly as he has made it known. At the same time, the preparatory and principal remedies are, we have no doubt, unnecessarily complex, and his rules as to diet unnecessarily precise, and even fantastical. The patient must take as a preparative two table spoonfuls every other hour of the following mixture, beginning in the morning while fasting, and continuing till seven at night. ℞ *Pulveris Radicis Valerianæ min. ʒvi. Foliorum Sennæ ʒij. Fiant legali arte infusi colati ℥vj. Adde Sulphatis sodæ crystallizati ʒij. M.* After each dose, the patient must also drink freely of black coffee, strongly sweetened with sugar; in the afternoón a thin pottage *(mehlsuppe)* is taken with herrings; and about eight in the evening salmagundi with chopped raw ham, an onion, a good deal of oil, and some sugar. Sometimes the whole worm is brought away by these preparatory measures, and frequently joints of it are discharged. Next morning at six, the following pills are administered at the rate of six every hour.

℞ *Assæfetidæ et Extracti Graminis, singulorum ʒiij.; Pulveris Gutti, Pulveris Rhæi, Pulveris Jalapæ, singulorum ʒij.; Pulveris Ipecacuanhæ, Pulveris Digitalis, Sulphur. Stib. aurant. singulorum ℈ss. Submuriatis Hydrargyri. ℈ij. Olei Tanaceti ætherei, Olei Anethi singulorum gtt. xv. M. Fiant legali arte pilulæ ponderis gr. ij. Consperge lycopodium et in vase vitreo bene obturato conserva.* These pills are taken with a tea spoonful of syrup; and half an hour after the first dose, a table spoonful of castor oil is administered. In the intervals between the doses, black coffee with sugar is to be drunk freely as on the first day. The discharge of the worm usually continues till about two o'clock, when the pills may be abandoned, unless more joints are discharged to the last. If the discharge is very tedious, several additional doses of the castor oil should be taken with sugar. The only food allowed during this course of medicine, is beef tea at midday, and in the evening the same or pottage, either with butter or sugar. On the following day it is well to administer a few more pills, so that no remains of the worm nest may be left behind. Sometimes a relapse takes place, particularly when the rules now laid down are not carefully observed, or when the medicines are frequently vomited. In such circumstances nests of worms are left behind, containing five or six young tæniæ about a finger's length in size. These are with great difficulty expelled, as they are enveloped in a great deal of mucus, and lie concealed in the folds of the intestines. To prevent the risk of relapse, it is of great use to eat salmagundi frequently, with horse radish, vinegar, and sugar; and every eight days a few doses of the pills should be taken. After the removal of the worms, a generous diet is allowed, consisting of soups, the flesh of young animals, chickens, pigeons, whites of eggs, wine; and a few doses of some bitter tonic are administered daily.

When the existence of a worm in the intestines is doubtful, the following powder is to be given as a trial remedy, the patient having been previously prepared by taking on the preceding evening salmagundi and syrup. ℞ *Pulveris Jalapæ gr. xv. pulveris seminis Cinæ ℈ss. Pulv. Gutti Hydrargyri submuriatis singulorum gr. vi. Oleo-sacch. Tanaceti ʒj.* This powder causes much purging; and if a worm is present, joints or even the entire animal will be found in the stools.

The circumstances which contraindicate the above method of cure are pregnancy, the approach or recent departure of the catamenia, active local inflammations, consumption, wasting of every kind, open hemorrhoids, hæmoptysis, and the debility of extreme old age.—*Journal der Praktischen Heilkunde, August*, 1828.

On the Efficacy of Camphor as a Remedy for Puerperal Mania.—In the account of the treatise of Dr. Burrows on insanity, given in the present number of this journal, allusion has been made to that physician's condemnation of camphor as an antimaniacal remedy. In opposition, however, to his statements, and those of Drs. Haslam, Cox, and Halloran, we have, in the journal now quoted, the testimony of professor Berndt of Greifswald to its efficacy in puerperal mania. The form of the disease with which Dr. Berndt appears to be chiefly familiar, and which, if we may be allowed to found a conclusion on his single experience, would seem to be disproportionately frequent in Germany, is that variety which is accompanied by inordinate sexual propensities, or even actual nymphomania. In all the cases he has related, this symptom occurred to an excessive degree, so that he is even disposed to consider it a characteristic sign of *idiopathic* puerperal mania. His testimony in favor of the efficacy of camphor in this variety, is of the most flattering description; and it is coupled with the acknowledgment that in his earlier practice, before he betook himself to the remedy in question, his success was very far from being satisfactory. The following abstracts of some of his cases, will convey an idea of the evidence on which his favorable opinion is founded.

Case 2d. A woman, 26 years of age, of stout constitution, full habit, and free from hereditary tendency to insanity, was delivered of her first child after passing the whole period of pregnancy prosperously; a mild milk fever appeared on the second day; the secretion of the milk, and discharge of the lochia, went on in the natural manner; and in eight days she was able to leave her bed. During the night of the tenth, however, she became very restless. Next morning her speech was confused, her words and actions were hurried, and her eye wandered wildly; in the course of the day she several times broke out into paroxysms of anger, misused her infant, began to talk incessantly and obscenely, and, though naturally of mild temper and gentle dispositions, gave way to extravagant expressions of desire. On the morning of the twelfth, Dr. Berndt found her in the same condition. The countenance was red, but there was no fever present, the pulse being rather oppressed, and the temperature natural. The milk continued to flow, though in diminished quantity; the lochia had nearly ceased; the bowels had not acted for three days. The countenance was alternately pale and red; sometimes she appeared to fall asleep, but from this state she soon awoke suddenly, and resumed her incessant talking. Laxatives were immediately administered; leeches and, subsequently, cold fomentations were applied to the head, and strict quiet was enjoined. Next day no improvement had taken place, except that the determination to the head no longer existed. Having previously had frequent experience of the complete inefficacy of the antiphlogistic method of cure, as well as of the danger of narcotics, Dr. Berndt resolved to try the effect of camphor; and as the patient refused to swallow any thing, he directed an emulsion containing ten grains to be administered in a clyster. The first dose was immediately discharged, but the second was retained. In six hours an obvious amendment had taken place, so that from that time she willingly swallowed what medicines were prescribed for her. Four grains of camphor were therefore administered by the mouth every other hour, and with the happiest effect. In twenty-four hours she was perfectly quiet, in full possession of consciousness, and her association of ideas so correct, that she did not exhibit any confusion till after maintaining a long conversation. In twenty-four hours more, her mind was as entire as ever; but for several days after she complained of exhaustion, confusion in the head, and slight attacks of giddiness. The quantity of camphor she took from first to last, was twenty grains by clyster, and eighty-eight by the mouth.

Case 3d. A healthy woman, 23 years old, and not predisposed to insanity, was safely delivered of her first child, and for some days did well. On the sixth day she complained of her left breast, in which a small tumor could be felt. On the following day she complained of general discomfort; in the course of the night she had troublesome dreams; and next morning her intellects were evidently disordered. She often sprang out of bed, put on her cap before a looking glass, and with a self satisfied air walked to the window to show herself. She exhibited no violence, however, and appeared always in a cheerful humor. Next morning, when Dr. Berndt first saw her, a tendency to nymphomania was obvious in her speech and actions. There was little flushing of the face, some frequency and oppression of the pulse, little or no increase of heat. The lochia continued, though scantily; and the milk was secreted abundantly; but the tumor in the left breast had increased to the size of a hen's egg, and there was a bloody tumor over the ischium. Dr. Berndt conceiving that the disease of the breast was the cause of the mental alienation, directed leeches to be applied to the part, and afterwards mercurial inunctions. At the same time, he administered every other hour a grain of calomel with a grain of camphor. In twenty-four hours she became much quieter, had some placid sleep, and for the first time complained of pain in the breast, and in the tumor over the ischium. Under the prolonged use of camphor she got gradually better and better, and the amendment seemed to keep pace with the progress of the two tumors towards suppuration. In six days the breast suppurated completely, and her complaints then ceased.

Case 4th. A woman, 31 years of age, of keen passions and lively disposition, robust in form, and free of hereditary tendency to insanity, was safely delivered of her second child, and in seven days was able to leave her bed, and attend to her domestic concerns. On the eleventh day the commencement of mental alienation showed itself in sudden ill will towards her nurse, and discontent at her husband's necessary absence. Next day the maniacal state was fully formed, and continued without change till seven days afterwards, when Dr. Berndt was called to see her. The countenance at that time was flushed, the eye wild and roaming, her violence excessive. She attempted to scratch, bite, and strike those near her, tore the plaster with her fingers, talked incessantly, loudly, and shamelessly, and her conduct, also, showed an utter disregard of decency. Nevertheless, there was no unusal heat of skin, the pulse was contracted, and she ate and drank voraciously. As she had obstinately refused to take any medicine, and could not be restrained without great force, the strait waistcoat was applied, and a clyster containing ten grains of camphor, in the form of emulsion, was prescribed. At the same time, leeches were applied to the head, the chamber darkened, and all unnecessary attendants were withdrawn. In the succeeding night she had several hours of sleep, from which, however, she awoke only to renew her violence. Next morning the camphor clyster was repeated, and again in the evening; when at length she consented to take medicines by the mouth. Three grains of camphor were, therefore, given every hour; and the effect of this practice was so complete, that on the following morning her furiosity had entirely disappeared. In the afternoon, Dr. Berndt found that her consciousness had returned pretty completely. She asked pardon for the language she had used towards her physician, and complained of a feeling of anxiety which threatened every now and then to deprive her again of reason. The pulse continued oppressed, the skin was moist, the bowels regular, the secretion of milk scanty, the lochia reduced as usual to a discharge of mucus. Two grains of camphor were given every other hour. A long, placid, and refreshing sleep ensued, and afterwards a copious sweat broke out, which removed every vestige of mental disturbance.—*Journal der Praktischen Heilkunde, November*, 1828.

The Efficacy of Tannin in Suppressing Uterine Hemorrhage. By Dr. Porta.—*Case I.* In the first case in which the tannin was given, the lady had been subject to hemorrhage, more or less, during a year; and the result was great emaciation and debility. Various remedies had been employed without success: a half drachm of the dried leaves of the black muscadel vine was prescribed, mixed in a small quantity of water. The first dose was taken on an empty stomach, and the same quantity was repeated in about an hour after having taken food. This quantity produced no derangement of the stomach, and its action was so prompt that on the same day the hemorrhage ceased, and did not again return.

The success of this case induced Dr. Porta to try the remedy in some others.

Case II. A lady, aged thirty-four, of a sanguineous temperament, of a robust constitution, who had regularly menstruated, and who was the mother of four children, had been subject to hemorrhage for a month, but which was so slight that she did not deem it necessary to seek medical aid. After having taken a journey, the hemorrhage increased very much, with violent pains in the hypogastric and lumbar regions. The duration and the urgency of the case, the hardness and the fulness of the pulse, determined me (says Dr. P.) to take some blood from the arm; and this bleeding I repeated at the end of two days, which succeeded in procuring an alleviation of the hypogastric pains, and in moderating the hemorrhage. I ordered the lady to take small doses of ipecacuanha and nitre, and to remain quiet. Finding, after several days, that the hemorrhage continued, notwithstanding the removal of the symptoms of irritation, I ordered a half drachm of the leaves of the black vine every three hours; which was continued until three ounces had been taken without any perceptible benefit. I was led to consider that the only useful part of the powder was the tannin which it contained, and therefore prepared it from the leaves in the manner recommended by Proust. Having thus procured tolerably pure tannin, I ordered the patient to take two grains of it made into a pill, with a little sirop, every three hours during the day. It appeared to agree very well with the stomach; and at the end of three days the hemorrhage ceased; and the lady has been since very well.

Case III. Quaroni Angiola, aged about forty, was seized, on her recovery from a bilious fever, with severe uterine hemorrhage; and thinking this was only an irregular appearance of the menses, which had not altogether ceased, she did not at first notice it much. As the discharge, however, continued for some weeks, and the patient began to lose her appetite and strength, she applied to Dr. Porta for relief. Recourse was had immediately to the tannin, in doses of two grains every two hours; and in two days the bleeding entirely ceased.

Case IV. Muffi Rosa, thirty-two years of age, of a delicate constitution, mother of an infant which she was then nourishing, was seized, in the fourth month of lactation, with copious uterine hemorrhage, which continuing for several days, she became alarmed, and applied to Dr. Porta. At the time he saw her, the hemorrhage had existed for twenty days, with considerable fever and pains in the loins; the abdomen was soft, but the hypogastrium slightly tumid. The tannin was prescribed in pills, as in the preceding cases;

eight of which served to stop the hemorrhage entirely, and to remove all the symptoms of debility consequent on it.

Case V. Aguzzi Teresa, aged thirty-eight, of a sanguineous, irritable temperament, had had uterine hemorrhage for three weeks, when I was called to her. On pressing on the hypogastrium, I remarked that it produced pain, and that the pain extended towards the loins. She had irregular accessions of fever, and the pulse was frequent; but there was no notable tumor in the hypogastrium. I considered that the tannin might be prescribed with effect, as in the former cases, and ordered three grains to be taken every three hours. About two scruples were taken in the course of about ten days, at which time the hemorrhage had entirely ceased.

Dr. Porta states that these are only a few of the numerous cases in which he has employed the tannin with success; and, during three years, he has only met with two cases in which it failed. From the repeated opportunities he has had of observing its action, Dr. P. has drawn the following corollaries:

1st. That this medicine acts in a particular manner upon the uterus, when that organ is the seat of an irritation which gives rise to active hemorrhage and when this bleeding results from chronic metritis.

2dly. In hemorrhage arising from actute metritis, it is necessary first to combat the inflammation by repeated sanguineous evacuations, and then to have recourse to the tannin.

3dly. It has no beneficial effect in those hemorrhages which are the result of organic alteration of the uterus.

4thly. This remedy ought to be preferred to all others in the treatment of uterine hemorrhage, not only on account of the promptitude with which it causes the symptoms to disappear, but because the dose necessary for this purpose is so small as not to disagree with the stomach even of debilitated and irritable persons.—*Annali Universali di Medicina.*

Nitrate of Soda in Dysentery.—This salt is highly recommended by Dr. Meyer (Hufeland's Journal) in epidemic dysentery. So great was its success, that it has become a common extemporaneous prescription. He did not lose two individuals out of one hundred sick. The dose is from half an ounce to an ounce dissolved in eight ounces of gum water. It differs essentially from nitre in its operation, acts as a refrigerant, purges gently, and determines to the skin. According to Dr. Meyer, it is indicated in all inflammations of the digestive canal.—*Bulletin Universal.*

Experiments and Remarks on the Internal Exhibition of the Acetate of Lead. By William Laidlaw, Surgeon.—Very opposite opinions are entertained by individuals, equally distinguished for their candor and erudition, relative to the internal administration of the acetate of lead; some considering such use of it as a display of unqualified rashness, while others conceive it to be a valuable remedy in many dangerous diseases.

That the incautious use of the acetate of lead will produce deleterious effects, it would be equally idle and uncandid to deny. The colica pictonum, ever since the interesting investigations of sir George Baker on the subject, has been universally allowed to be the effect of the gradual introduction of that salt into the system ; and, perhaps, it is this circumstance which has prejudiced so many against the remedy. But the production of so baneful a complaint, by the gradual introduction of lead into the system, is not a conclusive proof, or rather is no proof at all, that its judicious use may not effect salutary results.

Were this not admitted, arsenic, the oxymuriate of mercury, and many other articles of the materia medica, might, with at least equal propriety, be discarded.

Agreeing, then, with those who conceive that the judicious exhibition of this remedy is not only justifiable but proper, the question to determine is—in what the "judicious" use consists.

By its judicious use, I understand the administration of it in such quantities as shall most speedily, and, therefore, most safely, cure the disease for which it is employed. I have said most speedily, and, therefore, most safely, because I am persuaded that the latter object will be attained in the same proportion as the former is accomplished. But the administration of it in small doses, such as half a grain, especially in uterine hemorrhage, does not appear to be the proportion best calculated most speedily to effect a cure: as such a mode of exhibition, from the slow operation on the disease, will ultimately require a greater quantity to be used than if the doses had been larger, so it resembles more the insidious manner of its introduction in manufactories, and along with food; by which paralysis and convulsions are produced.

Some information on the subject, perhaps, may be obtained by observing the effects produced by certain quantities on animals. From the experiments of Orfila, it appears that from one to three grains of the acetate of lead have been frequently injected into the jugular veins of weak and middle sized dogs, without their having appeared to be incommoded by it. In these experiments, however, it was directly introduced into the circulation, whereas in the cure of disease, the circulation is only indirectly affected ; and it will, therefore, require, to produce similar effects, a proportionally greater quantity ; but what that quantity is, or ought to be, does not from these experiments appear.

Examples, it is true, are given of larger quantities having been introduced into the stomach, even to the extent of a drachm and a half in the solid form, and to an ounce in solution, without material injury having been sustained; but as both the animals immediately vomited, the experiments do not show what the result would have been had these quantities been retained. To ascertain the quantities which could be received and retained in the stomach, and to observe the subsequent effects of them on the animal economy, do not, indeed, appear to have been the objects of the experimenter; but rather to determine the nature and extent of injuries sustained by the operation of excessive quantities, with the view of adopting the most efficacious remedies.

Valuable, then, as these experiments are, for having unfolded some of the effects produced by the internal exhibition of this salt, yet we are still left to enquire what quantity is the most fit for its administration in the cure of disease.

At the Western Dispensary, for the complaints of women and children, I have often seen Dr. H. Davies successfully employ it in cases of uterine hemorrhage, in doses of two grains, combined with opium, to be taken every third or fourth hour, till the complaint was removed, or unfavorable symptoms induced. In the same complaints, and in similar doses, I have given it to the extent of ten grains daily, for four successive days. This, however, was not done without great anxiety, and close attention to its effects. No unpleasant sensation was complained of, and no deleterious symptom. Although when patients are in circumstances which render compliance with the almost indispensable requisites—rest and quiet—easy, it is rare that more than one half of the above quantity is ever necessary; yet even with them, in extreme cases, it may occasionally happen that the remedy must either be pushed farther than forty grains, or abandoned in despair, as incapable of removing the malady.

In such cases, it becomes a question of moment satisfactorily to determine whether it be really justifiable thus to proceed without being aware what the ultimate consequences may be. This question I was anxious to set at rest. On the one hand, from the extent to which it had been carried with salutary results, I was inclined to believe that it might be extended still farther; but on the other, I was not aware of any example of its having been employed in a greater quantity, or even to the same extent as that above mentioned.

In order to determine this point without exposing any of those who might have trusted themselves to my care, I prepared the following prescription, which I purposed to take myself till the occurrence of circumstances which might indicate the prudence of omitting it.

℞ Plumbi acetatis ʒi.
Opii gr. viii.
Extracti gentianæ ʒi.
Acidi acetici diluti q. s. fiant pilulæ xviii. quarum sumature una ter die.

September 12, 1827, when I commenced taking these pills, each three of which, it will have been perceived, contained ten grains, my health was perfect; and no deviation from this state was perceptible till the evening of the 14th, when the pulse was found somewhat slower, and a metallic taste perceived in the mouth.

16th. The last two pills on the 15th, containing nearly seven grains, were taken within two hours of each other; but no unpleasant effects were experienced. The pulse, in bed, was sixty, and indistinct; after exercise, sixty-four, and more distinct; the metallic taste stronger, with some tenderness of the gums; but having been engaged for some days in putting up preparations in a solution of the muriate of mercury, I was in doubt whether the tenderness of the gums was to be attributed to this circumstance or to the lead. Forty grains having now been taken (the last seven grains within two hours) without any other perceptible inconvenience having been produced than a metallic taste, and, perhaps, some tenderness of the gums and constipation, it was resolved to ascertain the effect of a larger dose; ten grains were, therefore, taken at once; immediately after which, slight pain of the stomach and nausea were felt; pulse fifty-eight and weak.

Early on the morning of the 17th, the pain of stomach and nausea had not increased, but the sleep had been much disturbed; the pulse, while in bed, fifty, and so indistinct as to be counted with difficulty; some inconvenience experienced from weakness, especially at the knees; urine diminished in quantity, and high colored; bowels not acted on since the 12th.

The symptoms varied but little till an early hour on the morning of the 18th, when I was awoke with severe and unremitting pain of the stomach, with nausea; vomiting was suppressed with difficulty. Immediately three drachms of the sulphate of magnesia were taken in solution; the pain instantaneously became much relieved; shortly after which I went to sleep; awoke at seven, and found the pain entirely removed. A similar quantity, however, of the sulphate of magnesia was repeated, with a view of effecting the entire decomposition of the salt. The pulse rose from fifty to sixty; it was still weak, but distinct; the weakness at the knees was somewhat diminished; the urine had become more free, was of a dark olive color, and sweetish. The pain did not return; and without the further aid of medicine, in a few days I had perfectly recovered from every unpleasant sensation. When the experiment was commenced, paralysis and convulsions, which are the severest, but rather the accidental than the usual, effects of the introduction of this salt into the system, were not much dreaded, but the practicability of administering it until its peculiar or characteristic symptoms, colica pictonum, were produced, was certainly anticipated. The interruption which prevented this effect, I think there can be no doubt must be attributed to the last dose, ten grains. The uneasy sensations, which produced an interruption to the experiment, were not the characteristic effects of the introduction of the salt in excess into the system—were not colica pictonum, but unequivocally gastrodynia; and it is presumed, were referable not to the aggregate amount of the salt taken, but to the excess of the last dose—not to the specific effect, as colica is presumed to be, but to the styptic quality of the salt. The sensation, excepting the nausea, precisely resembled in kind, though much greater in degree, what I have often experienced from eating acid fruit. That the pain arose from the styptic quality of the salt appears to be corroborated by the instantaneous relief obtained, as I conceive, from the decomposition effected in the stomach by the sulphate of magnesia. Colica pictonum, too, is a malady which requires days, weeks, or sometimes even months to be subdued; but the removal of the pain in the experiment was almost instantaneous.

Being persuaded, then, that the interruption arose from want of due care, I was resolved to institute another attempt with more caution.

Accordingly, on the 10th of October, a drachm of the acetate of lead, eight grains of opium, with crumbs of bread, and acetic acid, was formed into eighteen pills, three of which to be taken daily till colica pictonum was induced, or other circumstances rendered its discontinuance necessary.

11th, 2d day. Tongue white; taste in the mouth metallic; pulse sixty; urine high colored.

12th, 3d day. Appetite good; metallic taste more distinct; gums tender and turgid; pulse fifty-five; weakness of the knees; urine high colored; bowels not acted on since the 10th. Aperient pills, composed of rhubard and jalap, were taken.

13th, 4th day. Eight of the aperient pills taken; bowels moderately acted upon; metallic taste, tenderness, and turgidity of the gums less severe; urine more natural; debility diminished; pulse fifty-six.

14th, 5th day. All the symptoms diminished; functions natural.

15th, 6th day. An unpleasant sensation of tightness in the chest, increased by exercise; metallic taste strong, not sweet, rather disagreeably bitter; gums turgid and tender; no nausea, constriction of the throat, pains of the stomach or abdomen; pulse fifty-two; after exercise eighty-five; heat ninety-six; after moderate exercise $100\frac{1}{2}$; urine high colored; bowels confined.

16th, 7th day. The uneasiness in the chest increased; metallic taste stronger; gums more turgid and tender; pulse fifty-two, rather weak; urine high colored; bowels confined.

The first supply of pills, containing a drachm of the medicine, having been finished, a fresh parcel was made.

17th, 8th day. The affection of the mouth increases in severity; the unpleasant sensation in the chest and debility are also increased; countenance sallow; pulse fifty-eight; respirations in the space of a minute, twelve, and somewhat laborious; no nausea, pains of the stomach or abdomen; bowels confined. From the severity of the symptoms it was now judged prudent to put a termination to the experiment.

18th, 9th day. Last night ptyalism came on; all the other symptoms continue severe. This morning a sensation of tightness in the hands and feet, especially in the fingers and toes, was felt, gradually diminishing in distinctness as it extends beyond those parts; the sensation is not that of acute pain, but is rather a numbness, increased or becoming more perceptible by the using of the affected parts.

By the free exhibition of the sulphate of magnesia, all the above symptoms, with the exception of the affection of the mouth, gradually decreased, so that they ceased after the fifth day to be troublesome. The ptyalism was never profuse, but sufficiently copious, almost entirely preventing sleep for three or four nights, and troublesome in some degree for several weeks.

By the eighth day seventy grains of the acetate of lead had been taken, and yet no indication of the complaint had appeared, the inducing of which was the chief object of the experiment. From these experiments, then, it appears, that the acetate of lead may be taken in three grain doses, to the extent of ten grains daily, for from five to seven days, without the risk of inducing colica pictonum.

By this conclusion, however, it is not wished that it should be understood as asserted, that in every instance the salt can be pushed to this extent without inducing other unpleasant symptoms, which may render it necessary to put a termination to its exhibition. Besides, idiosyncrasies, in the administration of this medicine, will be found to occur as in other remedies. Some patients I have seen, with whom it could not be carried beyond twenty grains without inducing vertigo, nausea, and in others even vomiting; while in the experiments above detailed, and in another case which occurred to me, seventy grains were exhibited without either these or symptoms of painters' colic having been induced. The quantity, therefore, which may be given in the latter cases with propriety would be extremely rash and ill judged in the former.

Although, then, from these experiments the conclusion that from fifty to seventy grains of the salt may be administered without the risk of inducing colica pictonum will be found generally to hold good, yet much will depend on the circumstances of particular cases, which can only be positively determined by careful observation.

From these experiments it also appears that colica pictonum is not so frequently nor so easily produced by the use of the acetate of lead, as has been supposed. Gripes, it is true, are often thus produced; but these seem to be an incidental and not a necessary consequence, arising either from a peculiarity in the habit of the patient, a deterioration of the opium, or the proportion of it employed having been too small. In the above experiments the opium employed was British, and in the proportion of rather more than one to eight of the salt; but there was not the slightest attack, during the whole seven days, of gripes, nausea, or pains in the stomach. Should griping be induced previous to the necessary quantity of the remedy having been administered, it does not appear that this should be considered a sufficient reason for suspending its use, but rather that the proportion of opium should be increased to the requisite extent for the suppression of the uneasy sensations. Viewing these sensations not in all their relations, the limited survey may induce a belief that they are really the disease denominated colica pictonum. They are, however, it is presumed, materially different, arising entirely from the irritation produced by the salt in passing along the intestinal tube, and can, therefore, be removed by the diminution of that irritation. But colica pictonum seems to be produced by the constitution being fully imbued with the metal, and which unfolds its influence on the system in regular paroxysms affecting the intestines; which paroxysms, though they can be moderated by opium, cannot be entirely overcome otherwise than by the removal of the metal from the system by the various excretions. The difference between the gripes, which are the effect of a recent exhibition of the salt, and the paroxysms, which are the result of a longer continuance and more gradual introduction of it, may, perhaps, be fitly marked by denominating the former a local, the latter a constitutional affection.

On the general operation and local action of the salt, it may be remarked, that by exhibiting it in the proportions employed in the experiments, its influence on the animal economy, especially on the circulation, is considerable. The pulse, in the first experiment, when ten grains were taken at once, was remarked to be not more than fifty, and so feeble as to be counted with difficulty; and in the second experiment, where that quantity was not exceeded in a day, it was as low as fifty-two. It was remarked to be similarly affected in four of the six cases of colica pictonum quoted by M. Orfila, from the dissertation of M. Merat. In one of the cases it was so slow as to give only forty pulsations in a minute. I am not quite sure of the lowest degree to which the pulse may be reduced consistent with life; but I am inclined to believe that when colica pictonum terminates in death, it is not from inflammation, but from the exhaustion of the vital powers, induced from the operation of the poison. Orfila has given two cases which terminated fatally, but the post mortem examinations afforded no satisfactory explanation of the cause of death. The chief symptom was great exhaustion, indicated by a pulse that was scarcely perceptible. But although the sedative power of the salt when uncontrolled produces such effects as shall terminate in death, yet when regulated with a due knowledge of its powers, its operation may be rendered of great value in hemorrhagies; for this purpose, however, it is necessary to allow the salt to accumulate in the system.

On the third day of the second experiment it will have been remarked that all its effects, viz. metallic taste, turgidity of the gums, and sinking of the pulse, were gradually becoming more marked. But aperient medicines having been administered on the evening of the same day, those effects on the fourth day had all diminished, and on the fifth day the metallic taste was scarcely perceptible; the tenderness of the gums gave no uneasiness, and the pulse rose to fifty-six. But by allowing the salt again to accumulate, its effects once more became manifest; clearly showing that the action of the aperients diminished the power of the remedy by impairing its effects on the system. I have uniformly found that when the bowels continued regular or easy, the cure was more protracted than when they were confined.

Aperients, being decidedly disadvantageous, ought not, therefore, to be employed till the malady is checked, unless from some peculiar circumstance they are distinctly indicated.

The sedative effects of the salt, by which the impetus of the blood is so much diminished, there can be little doubt, is effected by absorption, for it is produced, not suddenly, but after some time.

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Some attention is necessary as to the form in which the acetate of lead is administered. In the above experiments it was employed only in the solid form. I have, however, in practice, also employed it in the fluid state; and, both from the experiments of Orfila and my own observation, I conclude that its operation in the latter way is more rapid and energetic, and, therefore, that it demands proportionally greater caution in its exhibition. The solution I employ contains two grains of the sugar of lead to the ounce of equal parts of acetic acid and distilled water, and eight or ten minims of the tincture of opium. I have not found it necessary, even in severe cases, to employ more than from three to six ounces of such a solution. As to the propriety of using one of these preparations in preference to the other, the seat of the disease, perhaps, should have some weight in forming the determination; for, when the diseases are dysentery, diarrhœa, hemorrhois fluens, uterine hemorrhage, or hæmaturea, there is, to say the least of it, some plausibility in giving a preference to the solid form, because, in its passage through the intestinal tube, it comes, in the one set of cases, in immediate contact with the affected parts, and in the others very nearly so. On the other hand, when the maladies are hæmoptysis, epistaxis, or purpura hæmorrhagica, there are the same reasons for giving the preference to the fluid form. The chief point, however, to be remembered is, that a smaller quantity in the fluid form serves the same purpose as a greater in the solid.

Whatever form shall be deemed preferable, it is of the first importance that the most scrupulous care shall be employed in the formulæ prescribed, to avoid every article which has a tendency to decompose it, either entirely or partially. Sulphuric acid effects the decomposition rapidly. Even the proportion contained in the infusion of roses accomplishes this readily. All the alkalies, neutral salts, and carbonates, do the same with facility. The carbonate of soda is, indeed, its best test, but the sulphate of magnesia its best antidote. The vegetable acids do not disturb it; and, therefore, wine, if necessary during its exhibition, may be allowed. The best formula, I think, for a pill mass, is—

℞ Plumbi acetatis, gr. xxiv.
Pulveris opii, gr. iv.
Micæ panis, gr. xx.
Acidi acetici, q. s.
Fiant pilulæ, xii.

And in solution—

℞ Plumbi acetatis, gr. xvi.
Tincturæ opii, ʒj.
Acidi acetici diluti, ʒxv.
Aquæ distillatæ, ℥ij.
Fiat mistura, cujus quâque quartâ horâ cochleare amplum capiatur.

If, unfortunately, on any occasion, symptoms of colica pictonum should supervene after the administration of this salt, the best means for counteracting such effects is the free use of the sulphate of magnesia in solution; and, after the bowels shall have been freely acted on, opium in such quantities as may be necessary for subduing the pain.

The salt I consider as chiefly of value in *passive* hemorrhages;

active hemorrhages, therefore, ought, by the use of the lancet, to be reduced to the passive form, anterior to its administration.

It is not, however, intended that it shall be understood from this statement that the patient, whose powers of life, from copious hemorrhage, are fast ebbing, is to have her best interests confided entirely to the administration of internal remedies. On the skill and prompt action of her medical attendant her life often depends, and his duty imperiously calls on him to have instant recourse to whatever the exigency of the case may require.

I shall now conclude by selecting three cases illustrative of the powers of the remedy.

First, of hemorrhage in threatened accidental abortion.

Second, of hemorrhage arising from debility consequent on abortion.

Third, of hemorrhage from the stomach.

I. *Of Hemorrhage in threatened Abortion.* On the 16th of July last, a lady, in the fifth month of pregnancy, after having taken exercise to an imprudent extent, was affected with alarming hemorrhage. I was instantly sent for, and found that the hemorrhage was considerable, the uterine contractions severe and regular, commencing at the back, extending to the abdomen, and thence darting to the pubes and thighs, expelling coagula at every return. She was directed to be kept quiet and cool, and acetate of lead, in the form of pills, to the extent of twelve grains daily, and a draught after each dose, consisting of equal parts of distilled vinegar and water, to be taken. In twelve hours the symptoms began to give way, and, by the time half a drachm of the acetate was taken, the pains had entirely ceased, and the hemorrhage disappeared. By some precautionary measures, and without the farther aid of this medicine, the lady was enabled to go her full time, and was confined in November last.

II. *Hemorrhage arising from Debility consequent on Abortion.* Elizabeth R., aged 30, August 1st, 1827, has had three miscarriages in succession, viz. one in March, 1826, one in August following, (of twins, from which she suffered severely from flooding,) and one in January last, which occasioned still more distress, from the same cause. During the first six weeks of her present indisposition, she has not been well for a longer period than from three to seven days at a time; and when the attacks recur, they generally continue from ten to twelve days without intermission. Previous to the last miscarriage, she sustained much inconvenience from vertigo; its severity was so great as to render her incapable of walking without assistance, and even continued after the miscarriage to such a degree as to induce her medical attendant to decline employing the necessary means for the suppression of the discharge from which she was daily suffering. Subsequently, however, for this purpose, she took mixtures to the extent of twelve half pints, without benefit, and then was advised to go into country. The discharge still continuing to harass her, she became much debilitated and very irritable; so much so, that even moderate exercise, or sudden alarm, brought on severe flooding. Last July, in one of these attacks, she is reported to have lost from two to three quarts of blood. At present, a full pint is lost daily; the vertigo is so severe as to affect the sight. She is weak in her person and desponding in her mind, from the supposition that she cannot recover. Pulse seventy-six, rather weak; appetite good, and bowels regular. From a disinclination to administer the acetate of lead, various astringent remedies were previously employed, but to no purpose. The acetate of lead was then had recourse to, and, forty grains having been taken in the course of four days, a perfect cure was established. When twenty-four grains of the acetate of lead had been taken, this patient complained of pains in the abdomen, but by increasing the proportion of opium, they were entirely subdued.

III. *Case of Hæmatemesis.* Mrs. I., aged fifty, 8th May, 1827. Two years ago the catemenia ceased; about three months after which, she began to expectorate blood every fourth or fifth week. She was also affected with headache and severe pains in the back. For these complaints she had been cupped, and had taken a great variety of cathartic medicines without any marked relief. The quantity of blood hitherto expectorated had been inconsiderable; but this morning above a pint had been vomited at once. A cathartic medicine was ordered, and directed to be given so as to act freely on the bowels. On the 11th, notwithstanding that the bowels had been freely moved by the medicine, she suffered much from vertigo: owing to this circumstance, she fell, and received a wound on the right temple. After the fall, severe sickness intervened, and she is reported to have vomited a wash hand basin two thirds full of blood. Vertigo still urgent; was bled from the arm, and had a blister applied to the nape of the neck, and cathartics continued with astringents. Some relief was obtained from these remedies; but two days afterwards (having visited the patient in the morning) I was called in haste again to see her, as she appeared to be dying, from the large quantity of blood which she had vomited, and which was reported to be above two quarts. She was much exhausted; pulse with difficulty could be felt, was small, frequent, and intermittent; countenance sunk, and of a deathlike aspect.

The acetate of lead, in solution with opium, was immediately ordered; three doses only of which were taken; the vomiting never returned, and although, from the extreme state of exhaustion to which she had been reduced, the patient was for some time in a precarious condition, yet ultimately she perfectly recovered, and, by occasional small bleedings, now enjoys better health than she has done since the cessation of the catamenia. The mixture taken contained only six grains of the acetate of lead; which shows the superior energy with which this remedy acts in solution.

Warwick street, April 28, 1829.—*Lon. Med. Gazette.*

Borax in Cutaneous Diseases.—Dr. Reinhart states that he has used a solution of borax (ʒss. to an ounce of water) with great success, as a local application in various chronic cutaneous diseases. Pieces of linen are to be dipped in the solution, and applied to the part. A slight sense of heat, and some redness of skin, result; if these be considerable, the application is to be intermitted for a few days.—*Journal der Prakt. Heilkunde.*

[We are indebted to our respected contemporary, the North American Journal, for the two following interesting articles.]

The Effects of certain Heroic Medicines on a Healthy Individual.—A report of experiments bearing this title, has been published in Buckner's Journal, and we avail ourselves on this occasion of the abstract furnished by the *Bulletin des Sciences Médicales.*

The substances on which the author, Dr. Joseph Waltl, experimented, were arsenious acids, belladonna root, opium, white hellebore, bitter almonds, extract of hyoscyamus, and Peruvian bark.

1. *Arsenic.* Six grains of *arsenious acid*, in fine powder, were thrown on burning coals, in Dr. Waltl's room, the coals having been taken away after they had ceased to give out any vapor. During the day the author experienced no inconvenience in his room; but, after he had been in bed for about two hours, he was awakened with a sensation of great anxiety and constriction about the trachea; the pulse was irregular and accelerated, and he suffered from headache. After having opened the window, and given issue to the vapors, he again went to bed much fatigued. This was followed by a copious sweat; and in the morning the only inconvenience was a little headache. Another person who had likewise respired the arsenical vapors, experienced the same effects, but more intensely. It results from these premises that the vapor of arsenious acid acts chiefly on the respiratory passages with which it is in immediate contact. Dr. W. is of opinion that this vapor, applied to the skin, but carefully excluded from the lungs, would be an efficacious remedy against ichthyosis.

2. *Belladonna Root.* Two grains of the root of belladonna gave rise to vertigo, cephalagia, somnolency, and a kind of drunkenness: the face became very red, and the pupils dilated. On looking on a book, the experimenter saw each letter multiplied. The dryness of the throat was very great. After four hours sleep, there was a complete return of the normal state. A quarter of a grain of the belladonna root failed to produce any effect. We must, therefore, be careful in ordering doses which shall neither be too large nor too small, if we wish to obtain good effects from it, in the treatment of diseases.

3. *Opium.* This substance, whether indigenous or exotic, at a dose of four grains, produced the phenomena of narcotism, which, as being familiarly known, need not be detailed here; there also ensued vomiting and sweating.

4. *White Hellebore.* Two scruples of white hellebore in decoction, with an ounce of water, furnished a liquid which was not acrid, but rather mild. A tea spoonful taken fasting having produced no effect after the lapse of an hour, the experimenter took a table spoonful. In three hours afterwards, there was a burning heat of the body, and a copious sweat of five hours duration. Six hours after the ingestion of the liquid, the eyes could not tolerate the light, the head was forcibly applied against the chest, so that

the slightest effort to restore it to its natural position caused a most violent headache, and intolerable pain of the occiput. The pulse was very much accelerated—there was sometimes a sensation of coldness and sometimes of heat, with great fatigue; there were, finally, ten evacuations by vomiting, and still more numerous ones per anum. The decoction had been taken at eight o'clock in the morning. At seven in the evening there was a feeling of appetite: the night was passed tranquilly, and on the following day nothing unusual occurred. It follows, from the above, that we must be cautious in the doses of the white hellebore, when it seems to be indicated by the nature of the disease.

5. *Bitter Almonds.* These, when taking fasting, in doses of half an ounce, produced, at the expiration of half an hour, violent pains of the head, and nausea for three hours. There was no other sign of poisoning. Ammonia inhaled in a gaseous form gave no relief.

6. *Extract of Hyoscyamus.* This substance, prepared from young plants which had grown on a rich soil, was often taken fasting in grain doses, but produced no effect; nor was there any more decisive result when the quantity was carried to six grains. This was probably owing to the experimenter having taken the plants when too young, and from a situation unfavorable to the development of its active principles. One ounce of the seeds of the henbane, bruised in a mortar, and mixed with six ounces of water, and boiled for two hours, formed a very bitter and disagreeable decoction. Dr. Waltl took the half of it in three doses at intervals of an hour, but without any effect. The dry and ripe seeds of the henbane would seem, then, to be as little narcotic as those of the poppy.

7. *Peruvian Bark.* Two drachms of brown bark in powder, taken for three days, produced no effect. On the fourth and fifth day the appetite became very great, and remained so for eight days. The alvine evacuations were fewer. The dose of the bark being carried as far as half an ounce per diem, the appetite was kept up to the same pitch without any inconvenience. Experiments prove, therefore, what was already known, that the bark is an excellent means of favoring digestion, especially when the stomach is in a state of atonic debility.

The Effects of Entire Abstinence from Solid and Liquid Food.—This is a question which exercises a very important bearing on therapeutics. It has been the theme of much, and at times no very measured, discussion. It is one, moreover, which nearly and deeply concerns mankind at large, not only on account of abstinence being made a means of relief from disease, by the professional attendant, but also on account of the possible widely extended application of the measure among all classes of society, without any other counsel than the consciousness of their being sick. The plainest dictates of instinct, and arguments of common sense, are in favor of its adoption under circumstances of bodily disturbance and disease; and it is to be greatly regretted that false theory, and the vaguest analogies, should have induced a portion of the medical community to discountenance it.

We wish, at this time, more especially to direct the attention of our readers to the *Experimental Enquiries* made by Dr. Collard de Martigny. 1. *On the effects of complete abstinence from solid and liquid food on the organs of the body; on the quantity and composition of blood, and the nature and course of the lymph.* 2. *On the morbid alteration of the fluids; the proper time for abstinence and bleeding in certain diseases; the use of the lymphatic vessels; and the existence of a lymphatic temperament.*

The effects of entire abstinence on the organs, as evinced in dogs and rabbits starved to death, are general and excessive emaciation, and a diminished size and colorless state of the muscles. The heart has little volume, and, as well as the aorta, vena cava, and pulmonary artery, contains a very small quantity of blood. The lungs are entirely empty of blood; the lining mucous membrane is pale; the liver, spleen, pancreas, and kidneys, are remarkably pale and small; their vessels empty, and parenchyma having little consistence. The vesical mucous surface is of a pale white. The gall bladder is of very considerable size, and distended with a large quantity of greenish yellow bile, limpid and very fluid.

The stomach is contracted on itself, the mucous coat exhibiting numerous folds, running in every direction, but especially from the cardia to the pylorus. The medium thickness of the stomach is a line and a half; its cavity is empty; the pyloric portion has a deep yellowish tint; when washed, its internal membrane towards the cardia is of a silvery whiteness, as Haller has already remarked, and towards the pyloris of a yellowish white. *In no part did it exhibit the slightest trace of inflammatory alteration.*

Throughout the entire extent of the intestinal tube, the mucous membrane is wrinkled; that of the small intestine is deeply colored with a greenish yellow, which is less evident in the large intestines. *As in the case of the mucous membrane of the stomach, that of the intestines exhibited, in its appearance, color, and consistence, no sign of inflammation.* Both the small and large intestines are of diminished diameter, and contain a greenish yellow matter; which fluid in the duodenum, increases in consistence in proportion as we leave the stomach.

In one case, the intestinal tube contained, throughout its entire extent, a small quantity of a dark green matter of a very putrid odor. The mucous surface of the inferior portion of the small intestine, and of the cœcum, in which it most abounded, was studded with violaceous spots. The mucous membrane of the stomach was strongly contracted and wrinkled, and of a slightly roseate hue at its pyloric extremity.

There is a notable difference in the duration of life between dogs and rabbits deprived of all nutriment; the carnivorous animals surviving much longer than the herbivorous. Age and size are also modifying conditions; since the older and larger the animal, the greater are its powers of living under a privation of all aliment. Thus, of three dogs submitted to the above experiments, the largest lived thirty-two days; the second, which was larger than the third, lived twenty-seven; while the third and smallest survived only twenty to twenty-one days.

The medium period in which three rabbits survived entire abstinence from food, was ten to twelve days. It is greatly abridged if the animal be very young; as, in the instance of three rabbits six weeks old, two died on the seventh, and one on the eighth day of starvation. A rabbit only three weeks old died on the night succeeding the third day of privation from food.

The contrast in the powers of enduring hunger between the carnivorous and herbivorous animals, was clearly exhibited in the cases of the rabbits seven months old, and the third dog mentioned above. Their size was nearly equal, and yet the first lived but ten or twelve days, while the latter survived three weeks.

In rabbits there is much less general emaciation and loss of the cellular tissue of the parenchyma of the organ; the muscles preserve nearly three sevenths of their first size. *All the mucous membranes are white, and without any appearance of inflammation.* The cavities of the heart, the beginning of the aorta, and venæ cavæ, and pulmonary vein, contain a small quantity of blood. The small vessels and capillaries are destitute of this fluid; the cornea is sunken and rather cloudy. It was never observed to be ulcerated.

In regard to the *effects of abstinence on the quantity of the blood*, Dr. de Martigny shows, by direct experiments, that there is a progressive diminution of this fluid throughout the entire period of alimentary privation.

Not only is there an *alteration in the quantity*, but also in the quality or composition, of the blood after prolonged abstinence. The quantity of albumen is increased, that of fibrine diminished. For farther particulars on this head, we refer to our department of chemistry; wishing, on the present occasion, to restrict ourselves to what has a direct therapeutical application in the experiments and inductions of Dr. de Martigny.

This gentleman concludes his chapter on "*the effects of entire abstinence on the quantity and course of the lymph*," by saying that the velocity of the course of the lymph in the vessels must decrease in direct proportion to the diminution in quantity of this fluid; and that, towards the conclusion of the period of forced abstinence, the slowness of the course of the lymph is such, that this fluid merely flows in drops, at intervals, from an opening made in the thoracic duct above the diaphragm. The first and immediate effect, however, of fasting is to accelerate the progress of this fluid. The change in the *composition of the lymph* after entire and prolonged abstinence, is also distinctly shown by the author.

He asserts, in reference to the evidences of local inflammation designated in some of the examinations after death from abstinence, that these are a *complication*, and are, at any rate, of very rare occurrence; since out of eighteen animals open and examined with the most scrupulous accuracy, he only met with three examples of this nature. Two of these had an evident origin. In the first, the microscopic ulcerations of the tracheal membrane were consecutive to an incision of the trachea, and probably, also, to the accidental introduction of dust or other light matters floating in the air. The violacious spots of intestinal mucous membrane of the dog already mentioned, were due to the presence of excremental matters, become putrid and infectious in the intestine.

In the recapitulation of his subject, the author says that the *disease* produced by prolonged abstinence until death, is the result, 1st, of an ulceration of the solids; 2d, and chiefly of alterations of the blood, which are at once the *mediate* and *immediate* causes.

The "*reflections on the proper time of low diet and bleeding in certain diseases*," without being long or profound, are, nevertheless, worthy of all attention. Abstinence has long been considered to exert the same effects which are produced by bloodletting, but in a slower manner. The author thinks that we rely too much on the safety with which low diet can be persevered in. What, he asks, results from this course? "The patient continually loses flesh; his sensibility and imagination are exalted, while his physical and moral powers are prostrated; his sleeplessness is increased; his weakness or concentration of pulse, paleness of the mucous surfaces, and diminution of secretions, announce the alteration in the quantity and composition of the blood. These are identical effects with those of general bleeding. Why, then, bring about slowly a state of things which we should tremble at causing with greater prompitude?" It might be said in reply, that it is not these effects which the physician deprecates, so much as a sudden general prostration and loss of balance between the heart and capillaries, which are occasionally caused by injudicious general bleeding.

The author next adverts to the exalted sensibility of the digestive canal, caused by long witholding food, and the consequent inability, after a while, to tolerate it in a common, or even reduced, quantity.

A caution is given to the surgeon not to be too prodigal of the blood of a patient suffering from wounds or fractures, since it has been seen that the wounds of animals subjected to prolonged abstinence cicatrized very imperfectly.

A rigid diet is more especially of dangerous tendency in cases in which there is a purulent cavity in any part of the body, or a suppurating wound of a bad character. The first effects of fasting are, as already stated, a diminution in the quantity of blood, and an increase in that of the lymph; that is to say, a very accelerated absorption—of course an absorption of the foreign and purulent matters from the sources above indicated. Among numerous other examples, the author cites the cases given by M. Andral; in one of which, a woman with chronic nephritis, the thoracic canal was found full of pus, and, some time before death, there had been *marasmus* and *hectic* fever: in two other women dead of *cancer* of the uterus, and the pelvis of whom contained putrid matter, and many cancerous masses, the thoracic canal held a puriform fluid, and a matter analogous to the cancerous masses. Instances are recorded by MM. Vallerand de la Fosse, Velpeau, and Bouillaud of encephaloid and cancerous matters in the veins. Dupuytren and Magendie furnish similar cases.

The two last chapters of the long and interesting paper of Dr. Collard de Martigny, are on the *functions of the lymphatic system*, and on the temperament characterized by the predominance of this system. These have been noticed in their proper place, under the physiological head.

On the Influence of Mercury on the Functions of the Uterus. By ALEXANDER COLSON, M. D., formerly House Surgeon of the Hôpital des Venerenis, &c.

The functions of the uterus, both in a state of menstruation and impregnation, are often disturbed by strong medicinal agents; and as mercury is used in this country to a greater extent than any other, excepting, perhaps, America, it may be interesting to enquire, what are the effects of this method on the uterine functions. Such enquiry can best be prosecuted in a Lock Hospital; and it is to this subject Dr. Colson has directed his attention.

The uterine derangements produced by mercury, he observes, are, mænorrhagia, amenorrhœa, and abortion. These effects he illustrates by a series of cases; one or two in each class we shall briefly state.

1. *Mænorrhagia.* A young woman, eighteen years of age, was received into hospital on the 17th October, for the cure of vegetations about the labia. She had been regular in her menses for four years previously. She was put on the use of Van Sweiten's liquor, (solution of oxymuriate of mercury) and eight days afterwards complained of pains in the abdomen, but especially in the loins and hypogastrium. The menses came on eight days in advance, and continued to flow during more than two months that she remained in hospital. The mercury had no effect on the vegitations. They were excised, and eight days afterwards the patient was discharged cured. Four or five other cases are detailed, showing the mænorrhagic influeuce of mercury; but the above is a sufficient illustration.

2. *Amenorrhœa.* C. Virginie, aged nineteen years, had contracted a syphilitic complaint—three months after, she went on the town. She entered the Venereal Hospital, and was put on the use of oxymuriate, which affected her mouth. Hitherto she had been regular in her courses; but now they stopped, and continued so all the time she was in the hospital. Two applications of leeches to the vulva were made in vain, as well as sinapisms, pediluvia, &c. She continued nearly three months in hospital, and left it in a state of amenorrhœa and general bad health, though the syphilitic complaint was cured. In about six weeks after she left the hospital, the menses reappeared. Six other cases of a similar kind are detailed by the author.

3. *Abortion.* A female, aged twenty-four years, six months pregnant, was received into the hospital in the month of October, for the cure of gonorrhœa. She was subjected to *mercurial frictions!* At the end of a fortnight of this treatment, she complained that she no longer felt the motions of the child, which previously were very distinct. She also complained of a sense of weight at the lower part of the abomen, and in the groins. This state continued three or four days, and ended in the abortion of a fœtus dead, and apparently of about seven months.—*Archives.*

This case is followed by five others, where the premature expulsion of the fœtus was reasonably referable to the exhibition of mercury. The author remarks, that miscarriages are very common in the Venereal Hospital of Paris, though this accident is usually attributed to the syphilitic complaint, and not to the mercury employed for its cure. Dr. C. is of a different opinion, and attributes the abortions to the mercury. We do not deem it necessary to enter into the reasonings adduced by our author, respecting the modus agendi of mercury on the fœtus. The facts are of more value than the arguments; and as far as these facts go, (and they are not very few in number,) they offer fair testimony of the injurious effects of mercury on the functions of the uterus. How far the particular mode of administration in the Parisian hospitals may increase these bad effects of mercury, we are not able to determine, but this short notice of a lengthy memoir may convey some useful precautionary hints to the English practitioner.—*Medico-Chirurgical Review.*

On small Doses of Oil of Turpentine for the Cure of Sciatica, and other Neuralgiæ. By M. Martinet, M. D.—The employment of terebinthinates, in the affections of the nerves, is of very ancient date; but it is only in modern times that the essential oil of turpentine has been fairly put to the test of experiment in the neuralgiæ, of which sciatica is one of the most obstinate and intractable. M. Martinet has lately given an exposition of the results of his experience, in seventy cases of *sciatica*, or other severe neuralgiæ of the extremities, where the oil of turpentine was employed, but in small doses—namely, about a fluid drachm in the twenty-four hours, and taken at three different times. In this way, it seldom acted on the bowels; but generally produced a sense of heat in the stomach, and throughout the whole line of the intestinal canal, and occasional perspiration. A similar sensation was usually experienced in the nerve affected. The vehicle of exhibition was honey syrup, or, what was the best of all, a mixture of syrup and calcinated magnesia. The yolk of an egg is also a good ingredient in the vehicle. Where the digestive organs were very irritable, a few drops of laudanum were added. The modus agendi of turpentine in the cure of sciatica, or of any of the neuralgiæ, is quite unknown, and, therefore, we shall not waste time in discussing that point. The *resumée* of our our author's experience with this remedy is as follows:

Of seventy patients who labored under sciatica or other severe neuralgiæ of the extremities, fifty-eight were cured—namely, three by frictions, and fifty-five by the internal administration of the turpentine. Ten experienced only a more or less durable relief—and five derived no benefit whatever from the medicine. Two out of these last labored under disease of the hip joint, under which they ultimately sank. Of these seventy cases, forty were acute, and thirty chronic. Of the forty acute cases, thirty-four were cured, five were relieved, and one received no benefit. Of the thirty chronic cases, twenty-four were cured, two were relieved, and four remained without any mitigation of their complaints. Of the fifty-eight patients who were completely cured, thirty-four were cured in less than six days, twenty-two within twelve days, and three within six weeks. Of these fifty-eight cures, forty-eight were cases of sciatica, two of which were cured by frictions. Three were crural neuralgiæ, four were brachial, and three facial. In the ten cases which were only relieved (all of which were cases of sciatica) the treatment was suspended after the second day. In twenty-one cases, heat was felt along the tract of the nerve, and in the limb affected; and nineteen of these were completely cured. In eighteen cases, heat was felt in the stomach and bowels. Three were affected with vomiting, but these had taken a larger dose than usual of the oil. Three had diarrhœa and colic. In five instances, the urine was augmented—four had duysury or strangury. In ten instances, the perspiration was augmented. In one case, a degree of intoxication was produced—and in two others, a pruritus was experienced over the body.—*Revue Medicale.*

PHARMACY.

Preparation of Iodine. By M. Souberan.—The following is the process recommended by M. Souberan, by which he has obtained as much as one eightieth part of iodine from mother liquors, that would yield none by the ordinary process. The mother liquors from the soda works, are to be diluted with four or five times their weight of water, and solution of sulphate of copper added, until precipitation ceases. The deposit will consist of iodine of copper and sulphate of lime, and is to be separated. Large iron filings, or turnings, are then to be put into the liquid and agitated, until all smell of iodine has disappeared, by which process the remaining portion of iodine will separate, as an iodide of copper, mixed with metallic copper and the iron turnings, but easily separated by washing over. These two precipitates are then to be acted upon separately, in one of the following ways: 1. The iodide is to be mixed with two or three times its weight of peroxide of manganese, and a sufficient quantity of concentrated sulphuric acid, and then distilled, when all the iodine will rise, with some aqueous vapor; or 2. The mixture of iodide and oxide of manganese is to be heated in a retort to a high temperature, when pure iodine will come over; the residue is pulverulent, and can easily be extracted without breaking the vessel.—*Ann. des Mines*, N. S. iii. 102.

Sugar of Liquorice—Glycyrrhiza Glabra.—The peculiar principle in the root of this plant has been long known. Doberuner and Robiquet have given processes for its separation. The following is by M. Berzelius. The cut root is to be infused in boiling water; the cold filtered infusion is to have sulphuric acid added in small quantities, until no further precipitate is formed. The precipitate is a compound of the acid with the saccharine matter, and is to be washed at first with acidulated cold water, and then with pure water, until no free acid appears. The precipitate is to be digested with alcohol, which leaves certain impurities, and then pulverized carbonate of potash, or soda, is to be added to the solution, until it is neutral; the clear liquor is to be decanted and evaporated. It is desirable to have a small excess of acid present, for which purpose put a little of the alcoholic liquor on one side, to be added at last to the neutral portion, and then leave the whole at rest, that the sulphate of potash may separate before the evaporation is effected.

The saccharine principle is a transparent yellow mass breaking like amber. Being heated, it melts and burns with a bright flame and much smoke. In powder, it burns like resin, or lycopodium. It does not change in the air. Its aqueous solution is precipitated by *all the acids*, and the more completely, the stronger is the solution. The precipitates have no acid taste, but are sweet; they disolve in water, and gelatinize upon cooling, if the solutions are strong.

This substance also combines readily with bases forming soluble neutral solutions; those with baryta and lime are not precipitated by carbonic acid. This principle forms insoluble compounds, with metallic acids, and many metallic oxides. It combines, also, with many salts, causing their precipitation in some cases.

The saccharine principle of the root of wild liquorice *(polypodium vulgare)* is altogether different in its qualities from the above substance.—*London Quarterly Journal.*

Substitute for the Sulphate of Quinia.—Bartholomea Rigatelli, a chemist of Verona, says he has discovered a substance which may be used instead of the sulphate of quinia; but the notice given of it is so imperfect, that it would not be worth attention, except that it comes from a committee, appointed by the Academy of Verona, and may therefore be supposed to have some foundation. The committee report, that the saline substance spoken of is obtained from an indigenous plant, common to all Europe; that it is obtained in considerable quantities by a simple process; that it consists of an acid, in union with a vegetable alkali; and that it contains nothing which can injure the health. The salt is friable, of an earthy appearance, and brick red color, having a more astringent and bitter taste than the sulphate of quinia; its odor is slightly vegetable, but scarcely perceptible. When pulverized, the powder is white, and very soluble in water. Multiplied observations have proved, that it may be successfully used in place of sulphate of quinia, in every case where the latter has been found advantageous. —*Bull. Univ.* C. xiv. 101.

Preparation of Gallic Acid.—The following is M. Le Roger's method. Gall nuts are to be exhausted by repeated decoctions, the liquid obtained concentrated and precipitated by a solution of jelly; the tannin thus rendered insoluble, is to be filtered out; very pure animal charcoal is to be added to the liquid, and boiled with it for eight or ten minutes, and the whole filtered, when the liquid, on cooling, will give pure white and silky crystals of gallic acid, amounting, when the best galls are used, to one fourth of their weight.—*Mem. de Geneve.*

DOMESTIC.

A New Instrument for the Operation in Fistula in Ano. By DAVID L. ROGERS, M. D., of New York.—(With a Plate.)

To the Editor of the New York Medical and Physical Journal.

Dear Sir—I send you the plate of an instrument for the operation of fistula in ano. While visiting the great hospital at Milan, I observed a probe pointed bistoury, in use for the dilatation of deep and irregular sinuses; and believing that an instrument of a similar construction might be employed with advantage in operations for fistula in ano, I have modified it so far as to suit it for that operation. The operation by the common bistoury is attended with many inconveniences, particularly when the sinus extends to a considerable distance up the rectum. Although the communication between the sinus and gut may readily be found with a probe, yet every surgeon will acknowledge the difficulty of following the track of the sinus with the sharp pointed bistoury. Another difficulty will occur to the surgeon after the point of the bistoury has entered the intestine, in being obliged to draw it out under the nail of his fore finger, by which the finger is frequently wounded, or it slips from the finger and wounds the intestine. These accidents have frequently occurred to me in performing this operation. The instrument which I offer to the profession, I believe, will obviate the difficulties which attend the operation by the common bistoury. This instrument consists of a common bistoury, the blade of which terminates in a small screw, (see fig. 2,) to which a flexible probe is attached (see fig. 3) of two inches in length. This, when screwed on the bistoury, completes the instrument, (see fig. 1.) I have considered the attachment of the probe by a screw as the best plan, inasmuch as it renders the instrument more portable, and different sized probes may be attached, according to circumstances.

The advantages of this instrument over the one in common use are—first, that the probe will follow the track of the sinus, and can more readily be passed through the opening in the rectum—secondly, it may easily be laid hold of by the fore finger, and drawn out at the anus, which its flexibility will admit of—and thirdly, the surgeon may take a firm hold of the instrument, so that by drawing it forward, it will cut its way out.

With much respect, I am yours, &c.

DAVID L. ROGERS.

No. 19 Market street, June 30, 1829.

N. B. Messrs. Rose & Sellers, of this city, have made me a very neat instrument of this description.

On the Management of Collared Cases in Midwifery.—It is a fact that many discoveries relating to the medical sciences are springing up in Europe, and promulgated as new, which have been known and taught for years in this country; and it is really surprizing, or rather amusing, to see with what avidity they are seized by American journalists and puffed off as something important, merely because they came from the old world. Among others is the "*new* method" proposed by Mr. Smith, of Bideford, and first published in the Edinburgh Medical and Surgical Journal, for the management of those obstetrical cases in which the funis is wound around the neck. The same "new method" has since gone the round of all the American medical journals. In the winter of 1812, and how much sooner I know not, professor Hosack publicly taught the very method recommended by Mr. Smith; and from that time the writer of this notice has pursued the plan, as others of his class unquestionably have done. In fact, the very same management is practised commonly, as far as I can learn, as a matter of ordinary routine, and is, perhaps, universal in this country, as it would naturally suggest itself to every ingenious mind. Instead of dividing the funis, or of attempting to slip it over the child's head, Mr. Smith tells us that we must first ascertain that portion of the cord which is attached to the placenta, which is easily learned, because this portion is loose and dilatable, while that part attached to the fœtus is tense and unyielding. This being done, the next step is to draw down as much of the placental portion as can be obtained, and at the next pain the finger of each hand must be introduced under the cord and the fold or noose sufficiently dilated to admit the child's shoulders to pass through it; then, by directing the child's head and shoulders anteriorly towards its own lower extremities in a looplike shape, the whole very readily slips through the turn of the cord. The passage of the funis over the shoulders instead of over the head requires four inches less of extension, and, hence, reduces the difficulty of the delivery. Those who have never practised this method of procedure will find no difficulty when the collar is single, but in cases of two or more turns of the cord they will find it easier to press the child back a little in the recess of the pain and slip the last turn of the placental portion of the cord over the head, pressing this closely to the breast. J. F.

Dow's Family Physic.—A nostrum under this title is now vending, and is said to be a composition invented or obtained by Mr. Lorenzo Dow, an eccentric methodist minister. It comes in bottles containing about lbjss., with directions to be taken every other morning in doses of a table spoonful every hour until it operates as a cathartic, each spoonful to be followed by a cup of warm tea. The medicine is certainly doing considerable good, and requires only the discriminating eye of a physician to render it useful. From a hasty analysis each bottle appears to contain—

Sulphas sodæ, ℥iv.
Sulphas mag., ℥ii.
Nitric acid, ʒiij.

Of this mixture I find an ordinary wine glass full to operate kindly as a cathartic. It has a very salutary effect on chronic hepatic derangement, colds of long standing, and bilious diarrhœas. J. F.

Hope's Formula.—Two years have now elapsed since this preparation of medicine was first introduced into this country for the cure of the dysentery. Its formula runs thus:

"℞ Acid nitrosi, ʒi.
Mist. camphorat, ℥viij. misce et
Adde Tinct. opii, 40 gtt."

"A small addition of the syrup of red poppies improves not only the appearance of the mixture, but in some instances it has appeared to increase its effects."

"In chronic dysentery, the dose of two ounces, three times a day, is quite sufficient; the remedy is grateful to the taste, abates thirst, soon removes the intensity of pain, and, in general, procures a speedy and permanent relief. No previous preparation is requisite for taking it, nor any other care while taking it, except the keeping of the hands and feet warm, preserving the body as much as possible from exposure to extreme cold, or currents of air, and making use of warm barley water, or thin gruel, and a diet of sago or tapioca."

The *nitric* acid was tried by Mr. Hope, but it did not produce the salutary effects witnessed from the *nitrous.*

Having, for two years, given the "nitrous acid mixture" a fair trial, we cannot claim for it any reputation in dysentery, unless it has degenerated into a chronic diarrhœa, for which it is an admirable remedy, as it also is in all cases of cholera infantum. Having substituted ʒviij. for ℥viij., we find a tea spoonful given to a child two years old, two or three times a day, in a quantity of well sweetened elm, flax, or quince seed tea, or in mucilage of gum arabic or mallows, to have a most happy effect. Of Mr. Hope's hundreds of cases in which it never failed, we are led to suspect that few were more than diarrhœas, with the severe forms of which he probably confounded dysentery. J. F.

QUARTERLY BIBLIOGRAPHICAL NOTICES.

Medical and Literary Annals. By Professor Hecker, at Berlin.

We have received the last two numbers of this valuable journal, published monthly, at Berlin, by professor Hecker, assisted by a society of professors of medicine in Germany. The first of these numbers, for October, 1828, contains several reviews of newly published works, and a variety of original articles.

The first number is on the connexion between the diseases of old age and of childhood, by Dr. F. Jahn, of Meiningen. (Senes bis pueri)—An original article. The author first enquires into the sensible life of old men and children. Young children pay little attention to light and sound, and old men see and hear but little; their taste and faculty of smelling (Magendie, Rudolphi) is equally imperfect; and, as Haller observes, old men and children are both fond of sweet things. He then examines the other systems. As the circulation in the veins is more developed than in the arteries, the systema venæ portarum is in old men of the greatest importance, and the circulation of the fœtus and neonatus is almost entirely venous. The muscular system in both of these ages is equally feeble, which is particularly observable in the weakness of the sphincters. The kidneys are in both of these ages very active, the digestion weak, and the genital system equally imperfect.

The author traces in this way the most interesting analogies, on a large scale, and then tries to show, that somehow the diseases of children return in old age.

1. He examines the cerebral system, comparing the hydrocephalus infantum to the hydrocephalus chronicus senilis; the hydrocephalus acutus infantum, with the apoplexia serosa senilis, &c. He likewise mentions the blepharophthalmia neonatorum, and the lippitudo senilis.

2. The author then turns his attention to the chylopoietic system, and mentions first icterus, to which complaint both ages are so often and equally liable. Atrophia infantum, and marasmus senilis, are next considered. The polypionia involutionis, the formation of superabundance of fat in old age, which sometimes likewise occurs in children, as polypionia infantum, and the helminthiasis infantum, frequently return in old age.

3. The uropoietic organs are, in both ages, liable to the same diseases, particularly to the formation of stones, and to the enuria renalis.

4. As to the genital system, both old women and young girls suffer frequently from fluor albus.

5. The system of respiration. Young children and old men are particularly liable to apoplectic fits and asthma.

6. The condition of the skin in both ages, constitutes the last object of this interesting enquiry. The author observes that in both these ages this organ is the most liable to disease, evinced by erysipelas neonatorum, and erysipelas pedum senilis; pemphigus neonatorum and senilis, herpes, &c. The glandular organs, which, in childhood, are subject to scrofula, suffer in old age frequently, from cancerous affection.

At the end of this interesting essay, of which we can only give a short notice, the author mentions a theorema of professor Meckel. The power which operates on human beings is intimately connected, if not the same, with that power which rules the universe, in creating in the opposite poles similar, although not equal, formations.

The third article is a critique on a newly published work, entitled "Enquiries into the moral and organic causes of mental derangement and moral corruption, for the perusal of medical men and lawyers—by Dr. F. Groos, first physician in the lunatic asylum at Heidelberg." This work is highly approved of, as well as the following, by the same author, which is likewise criticised: "Fragmenta psychiatrica."

The fifth article is a review of the following works:

1. "Remarks on the angina faucium mercurialis, as a complaint which follows the venereal disease, &c.—by Dr. C. G. T. Oppert, of

the University of Berlin." The author endeavors to distinguish the affections of the throat caused by mercury, from the syphilitic affections of those parts. He mentions, as characteristical symptoms of the angina mercurialis, a straining feeling in the palate and œsophagus, which often appears several months after the removal of all syphilitic complaints; difficulty in swallowing; hoarseness, particularly in the morning and evening; fatigue, and even pains, after talking, and these pains particularly in the nose, back part of the head, and along the eustachian tube in the ear. The uvula, palatum molle, tonsils, and opening of the eustachian tube, have a dark reddish color, and are never swollen, with the exception of one or the other of the tonsils. In the tonsils there appear sometimes small ulcers, similar to the venereal kind, in consequence of a cold, or after the use of spirits, or much smoking of tobacco; but they change their place of appearance frequently, which the syphilitic ulcers never do, while the latter enlarge themselves likewise faster, and are rather of a light reddish color. As remedies, he mentions warm clothing, flannel, sarsaparilla, Peruvian bark, guaiac, and particularly the nitric acid.

2. "The advantage and disadvantage of bleeding in diseases—by Dr. A. F. Fischer, of Dresden." A very able work, highly approved of.

3. "The abuse of bleeding, condemned by the authority of the greatest practitioners, and by reason and experience; for the perusal of young practitioners—by Dr. L. Angeli—translated from the Italian into German, with notes, by Dr. Widemann." The writer of the review observes, that this work is not so much calculated for Germany as for other countries, in which the practice of bleeding is more indiscriminately employed.

No. VIII. "A review of the Journal of Midwifery and Practical Medicine—by W. H. Niemeyer, professor of medicine and midwifery, in the University of Halle. First number. Halle, 1828." This number treats chiefly of midwifery at Halle, and of the system of teaching pursued there; and then he goes on to describe the general treatment, and particularly the diet necessary during gravidity, childbed, &c. As to the removal of the placenta, the author observes, that a placenta filled with blood is easier removed from the uterus, than one of which the blood has been mostly discharged, and, for this reason, he gives the advice to apply always two ligatures to the umbilical string.

The third essay of this journal contains several highly interesting treatises on midwifery, and diseases of females and children. There are some remarks on the effects of the pains during childbed on the mind, and it ends with a case in which a woman had truly prognosticated the fatal end of her tenth delivery, while all the preceding ones had been perfectly easy and natural. To this follows a case of microcephalus, and other cases in midwifery of different kinds, and of great interest.

The ninth article contains a review of the following work:—"Manual for the knowledge of books on medicine during the old time, and for the study of Greek, Latin, and Arabian medical writers,

&c.—by Dr. L. Choulant, professor of medicine, &c. at Dresden. Leipzic, 1828." This work, highly valuable for the study of the old medical writers, gives us a proof of the deep study and perseverance of some of the German professors. The work contains, in four sections, a list of the Greek, Latin, and Arabian authors, and also their collections and dictionaries. The first section commences with an introduction on the origin, course, and spirit of Greek medical literature. The author then proceeds to the different authors, and discusses the merits of their several works. 1. Hippocrates and his works; 2. Polybius; 3. Diocles of Carystas; 4. Platon; 5. Aristotle; 6. Theophrastus of Eresus; 7. Nicander; 8. Asklepiades from Prusa; 9. Andromachus, senior; 10. Erolian Dioscorides; 11. Aretæus. 12. Cassius; 13. Rufus of Ephesus; 14. Soranus of Ephesus; 15. Xenocrates; 16. Marcellus of Sida; 17. Claudius Galenus; 18. Antyllus; 19. Oribasius; 20. Alexander of Aphrodisias, and many others, viz. Nemesius, Palladius, Ætius, Alexander Trallianus, Theophilus Protospatharius, Paulus Ægineta, Meletius, Mercurius Monachus, Theophanes Nonnus, Simeon, Seth, Michael Psellus, Synesius, Joannes Actuarius, Demetrius Pepagonus, Nicolaus Myrepsus.

The second section treats of Latin authors, viz. Celsus, Scribonius, Largus Designatius, Cælius Aurelianus, A. Serenus Samonicus, Lucius Apulejus Barbarus, Antonius Musa, Vindicianus, Theodor Griscianus or Octavius Horatianus, Plinius Valerianus, Sextus Glacitus Gaperiensis, Marcellus Empiricus, Vegetius, Macer Floridus, Constantinus Afer.

The third section treats of Arabian authors, viz. Jahia Ebn Serapion, Honain Ebn Ishak, Jakub Ben Ishak, Ben Alsabah Abu Jusuf Alchind, Aben Guefit, Abdorrahman, Muhammad Ben Zachariah Abu Bekr Arrasi, Ali Ben Abbas, Ishak Ben Soleiman, Abu Ali Alhossain Ebn Abd'alla Ebn Sinah, Ebn Serapion, Jahiah Ben Dschesla, Chalaf Ebn Abbas Abu'l Kasem Alzahravi, Masarvaih Ben Hamech, Abu Mervan Ebn Zohar, Abu'l Walid Muhammad Ben Ahmad Ebn Roschd, Rabbi Moscheh Ben Maimon, Abdollatif Ben Jusuf Ben Muhammad, Abd'alla Ben Ahmad Dhiaeldin Ebn Albeithahr.

The fourth section contains a list of the different dictionaries, and the whole of the work proves the most perfect knowledge and deep study of medical literature, and may justly be considered classical.

No. X. contains an account of several new inaugural dissertations, published by young graduates of the University of Berlin.

We proceed now to the number for November. The first article is a continuation of an account of the epidemics prevalent in the Netherlands during the fall of 1826.

No. II. A review of a newly published work, entitled "The Diseases of the nerves and of the mind, by Dr. J. H. Feurstein. Leipzig, 1828."

No. III. A review of the German translation of Dr. Th. R. Beck's Medical Jurisprudence. The writer of the review speaks in lofty terms of the merits of Dr. Beck in the composition of this learned work. He makes particular mention of the sixth chapter, the eighth chapter, by Dr. John B. Beck, of New York, the tenth, the twelfth, and, also, the last chapter of the second volume.

The eighth article is a review of the Clinical Practice of Dr. J. R. Bischoff, Professor of Medicine in the Austrian Academy of Vienna. Vienna, 1829. This academy was instituted chiefly for the education of young physicians and surgeons intended for the Austrian army and the hospitals connected with it, as soldiers particularly are treated by them. Many interesting cases are mentioned in this account of the author's clinical practice.

The ninth article contains different short accounts of practical cases.

The journal gives decisive evidences of the patient and persevering attention, and the unabated zeal, with which our German brethren cultivate medical science. J. L. W.

Anales de Ciencias, Agricultura, Comercio, y Artes. Por D. Ramon de la Sagra. Habana; desde Julio de 1827, hasta Febrario de 1829.

Annals of Science, Agriculture, Commerce, and the Arts. By Don Ramon de la Sagra. Havana; from July, 1827, to February, 1829. Published monthly.

The extention of scientific research to the West India islands, even to those which are under the sway of despotic governments, is calculated to awaken the most delightful anticipations of the general and progressive improvement, in the moral and intellectual condition of the inhabitants of those interesting regions. Intimately connected with the natural and exact sciences, medicine cannot fail to derive from their successful cultivation, important accessions to its stores of knowledge, and its means of usefulness. And nowhere is such assistance likely to prove more beneficial than in tropical climes, the diseases of which are so frequently endued with severe and fatal forms. Cuba offers great facilities for the pursuit of this object, in the extent and fertility of her soil, and the variety and value of her agriculture and commerce. The annals before us have been undertaken with the laudable view of diffusing knowledge throughout the population of the island, and eliciting from them, in return, all possible information respecting its resources and natural history. Among the communications, which are generally of an important character, are several on medical subjects. From these we have made the following abstracts, to gratify the curiosity of the American reader. We shall continue them in a future number.

On the 15th of September, 1827, Dr. D. Francisco Alonso y Fernandez opened a college of medical surgery, by an introductory lecture, delivered in the Anatomical Museum of Havana. The purport of the address was a defence of surgery against the unfounded prejudices which have been but too popular against it, and have long and successfully aimed at degrading it below the rank of a science. His views of the subject are liberal and just, and the professor gained deserved applause. In Dr. Fernandez, many of our readers will recognize a highly respected honorary member of the Medical Society of New York. As an evidence of the zeal with which this learned physician cultivates medical science, we may notice the fact that the account of Civiale's lithonthriptor had no sooner reached the island of Cuba, than Dr. Fernandez availed himself of the first opportunity of having the operation performed on two dead subjects properly prepared. The experiment was completely successful, and several patients have consented to submit to the new method of operating for the stone.

Extraordinary Case of Premature Puberty. In the number for September, 1827, is related by the editor, an extraordinary instance of premature puberty in a black girl. She was born on the 6th of July, 1821. From the moment of its birth, the breasts of the child were observed to be very strongly developed, and not long after, a slight sanguineous flux occurred from its genitals. This evacuation was occasionally repeated after different intervals, but at the end of the first year it assumed a character of monthly regularity in its returns, which attracted very general attention. Dentition was performed at the ordinary period. The breasts continued to enlarge, and hair began to grow even in the axillæ. The narrator of the case first saw her when she was thirty-two months old: her height was then three feet and ten inches. Her feet were slender, her trunk, head, and extremities admirably well proportioned. The genitals and mammæ were as fully expanded as they are ordinarily at thirteen years of age, and her frame in general seemed to have undergone a similar development. With a view to ascertain the condition of her moral inclinations, various attempts have been made, but they have not as yet been successful. Her voice is grave and sonorous. Her name is Isabel, and she is a slave to Don Carlos Pedro, in Havana.

Traité Elementaire de Matiere Medicale. Par F. S. Ratier, Docteur en Medicine, &c. En deux tomes. Paris, 1829.
Elementary Treatise of Materia Medica. By F. S. Ratier, M. D., &c. Paris, 1829. Two volumes 8vo., pp. 456—351.

The author of these volumes is favorably known to the profession, by his very excellent descriptions of the hospitals of Paris. The present work is a faithful transcript of his own observations, added to those of the writers who have preceded him in the same arduous labor. The articles are treated of alphabetically, and many of them very minutely. In our next number we shall touch on those which are the most novel and interesting.

An Account of some of the most Important Diseases peculiar to Women. By Robert Gooch, M. D. London, 1829. 8vo. pp. 432.

This interesting volume shall be reviewed in our next.

Memoir of Edward A. Holyoke, M. D., L. L. D. Prepared in compliance with a vote of the Essex South District Medical Society, and published at their request. Boston, 1829. 8vo., pp. 80.

We are indebted to its excellent author, Dr. A. L. Peirson, of Salem, fer a copy of this interesting memoir. It is written in a chaste and appropriate style, and comments in just and unexaggerated terms the unassuming and practical virtues, the professional industry and scientific attainments, and the pure and useful life, of its lamented subject. To the physician, the life of Dr. Holyoke is fraught with intense interest. The most ardent and incessant occupation of mind and body, the temperate indulgence in all the blessings of this life, and a never failing zeal for the improvement of medicine, were the characteristics of this distinguished centenarian, preserved unsullied by the touch of time, and all its numerous and trying vicissitudes.

Anatomico-Surgical Drawings and Descriptions of all the Surgical Operations according to the most approved Methods. By L. J. Von Bierkowsky. Translated from the German. In two volumes, and 570 drawings, on 58 folio plates.

Messrs. G. & C. & H. Carvill propose to publish this work within the ensuing year, and have issued their prospectus in a neat pamphlet form, accompanied by a specimen of the translation. Judging from this latter, we are inclined to believe, that it will be every way worthy of the high character which this work deservedly enjoys in the estimation of the chirurgical world. The work will be issued in five numbers, at six dollars each, payable in advance.

MISCELLANEOUS NOTICES.

University of the State of New York—College of Physicians and Surgeons.—The twenty-third session of the College will commence on the first Monday of November next; after which the several courses of instruction will be continued by the respective professors, viz.

John Augustine Smith, M. D.—*On Anatomy and Physiology, daily.*

Alexander H. Stevens, M. D.—*Principles of Surgery and Clinical Practice of Surgery, daily.*

Joseph M. Smith, M. D.—*Theory and Practice of Physic and Clinical Medicine, daily.*

Edward Delafield, M. D.—*Obstetrics, and Diseases of Women and Children, four times a week.*

John B. Beck, M. D.—*Materia Medica and Medical Jurisprudence, five times a week.*

John Torrey, M. D.—*Chemistry and Botany, daily.*

Demonstrations of special and surgical anatomy will be given daily, without charge, by John R. Rhinelander, M. D.

Students will enjoy, as heretofore, every facility for practical anatomy. The extensive Anatomical Museum and the Dissecting Room will be open every day. Obstetrical cases will be furnished to students under the direction of the professor of that branch.

The students will have daily opportunities of witnessing the medical and surgical treatment and operations of the New York Hospital and Eye Infirmary; to the latter of which the directors have granted gratuitous admission to the students of this University during the session of the college. The professor of the theory and practice of physic will deliver clinical lectures gratuitously at the New York Hospital. Attendance on two courses of any professor entitles the student to free admission afterwards.

In order to graduation, the candidates must have attained the age twenty-one years—studied medicine three years—and attended two full courses of lectures at some legally incorporated medical college, the latter course at this University. He must also be provided with the requisite credentials of his age, term of study, and previous attendance on lectures.

The fee for each course of lectures is $15, excepting those of the anatomical and chemical professors, each of which is $20.

The matriculation fee is $5—graduation fee $25. Suitable board and lodging may be had in this city for $2.50 to $3 per week.

The trustees renew the expression of their obligation to the regents of the University and to the legislature, for the continued care which they have manifested for the science of medicine and for the medical institutions of this state.

By order of the board of trustees,

JOHN WATTS, Jr., M. D., *President.*
NICOLL H. DERING, M. D., *Registrar.*

New York, August 4, 1829.

University of the State of New York—College of Pysicians and Surgeons, Western District, (Herkimer county.)—The lectures commence on the first Tuesday of October, and will be continued for sixteen weeks.

WESTEL WILLOUGHBY, M. D.—*Midwifery.*
JAMES HADLEY, M. D.—*Chemistry and Materia Medica.*
JAMES McNAUGHTON, M. D.—*Anatomy and Physiology.*
T. ROMEYN BECK, M. D.—*Practice of Physic and Medical Jurisprudence.*
JOHN DELAMATER, M. D.—*Principles and Practice of Surgery.*

Ticket fees, $51.

Connected with the college is a stone edifice, four stories high, containing rooms for the accommodation of the students; and there are good rooms in the village for such as prefer private lodgings. The whole expense for a full course of all the lectures, including board, &c., need not exceed $100. The professor of anatomy has engaged Richard Fuller, A. M., to superintend the demonstrations in the rooms for practical anatomy; in which department it is expected that the means for improvement will be more ample than on any former occasion. JAMES HADLEY, *Register.*

Fairfield, August 1, 1829.

New York Hospital.—JOSEPH M. SMITH, M. D., professsor of the theory and practice of physic in the University of New York, has been elected one of the attending physicians to the New York Hospital, in the place of JOHN WATTS, Jr., M. D., resigned; and

John Watts, Jr., M. D. has been elected one of the consulting physicians to the same institution.

College of Pharmacy.—**Stephen Brown**, M. D. has been elected professor of pharmacy to this institution.

Medical Society of the City and County of New York.—At the anniversary meeting of this Society, held on the 13th July, 1829, the following gentlemen were duly elected officers for the ensuing year:

Dr. **Samuel W. Moore**, *President.*
Dr. **Daniel L. M. Peixotto**, *Vice President.*
Dr. **Benjamin B. Coit**, *Recording Secretary.*
Dr. **Francis O. Doucet**, *Corresponding Secretary.*
Dr. **William Rockwell**, *Treasurer.*
Drs. **R. K. Hoffman**, **E. G. Ludlow**, **Jno. Jas. Graves**, **C. R. Gilman**, **Wm. Hibbard, Jun.**, *Censors.*

Medical Society of the County of Westchester, N. Y.—The annual meeting of the Medical Society of the county of Westchester, was held at Mount Pleasant, on Tuesday the 2d day of June, 1829, at which most of the physicians of the county were present. After the transaction of ordinary business, the members were called to partake of a good dinner, provided by Mr. H. Romer. On being seated at the table, the members of the Society unanimously requested the landlord to remove the decanters from the table, and beer and water were substituted. At the reassembling of the society in their room, for the farther transaction of business, the following resolutions were adopted:

Resolved, That this society view with pleasure the efforts making by benevolent individuals in different parts of our country, and especially by our medical brethren in their assemblies, for the suppression of intemperance.

Resolved, That an entire abstinence from the use of ardent spirits is necessary to the enjoyment of sound health.

Resolved, That in the opinion of this society, even the moderate use of ardent spirits is injurious, and renders the system more susceptible of contagious and other diseases.

Resolved, That the moderate use of ardent spirits is the exclusive procuring and exciting cause of many diseases, and that a variety of other diseases might be easily removed, were they not rendered incurable by habits of intemperance.

Resolved, That those who practise an entire abstinence, as far as our observation extends, enjoy better health, and make fewer calls for medical aid, than those who are in the habit of using ardent spirits.

Resolved, That in our opinion the human system is capable of enduring greater hardships, and of performing more labor, without the use of ardent spirits, than with it.

Resolved, That the present practice of retailing distilled liquors, is injurious to the health and morals of the community.

The following officers were then elected for the ensuing year:

Dr. Matson Smith, *President.*
Dr. William Hoffman, *Vice President.*
Dr. David Palmer, *Secretary.*
Dr. Joshua Bowron, *Treasurer.*
Drs. G. C. Bailey, A. W. Gates, D. Palmer, *Censors.*
Dr. James Fountain, *Delegate.*

Harvard University—Medical Lectures.—The medical lectures in Harvard University will begin in the Massachusetts Medical College, Mason street, Boston, the third Wednesday in October next, the 21st, at nine o'clock, A. M.

Dr. Warren—*Anatomy and Surgery.*
Dr. Webster—*Chemistry.*
Dr. Channing—*Midwifery and Medical Jurisprudence.*
Dr. Bigelow—*Materia Medica.*
Dr. Jackson—*Theory and Practice of Physic.*

Berkshire Medical Institution.—The annual course of lectures commences on the first Thursday of September, and continues fifteen weeks. Medical degrees are conferred at the close of the lectures in December, and the annual commencement of Williams College, with which this institution is connected. Gentlemen who have received the degree of M. D., fellows of the Massachusetts Medical Society, and those who have attended two full courses of lectures at any incorporated medical school, are admitted gratuitously, the matriculation fee and library ticket excepted. The requisites for an examination for a degree are, a good moral character, three years' study with a regular physician, an adequate knowledge of the Latin language, and attendance on two full courses of lectures, one of which must have been at this institution. The examination for medical degrees begins on the Wednesday of the week preceding the close of the lecture term. Dissertations must be lodged with the dean of the faculty, at least four weeks preceding commencement. The trustees have made ample provision for the accommodation of students, and are increasing the advantages for a thorough and complete medical education.

The lectures will be delivered by the following professors of their several branches, viz.

H. H. Childs, M. D.—*Theory and Practice of Physic.*
J. D. Wells, M. D.—*Anatomy and Physiology.*
S. W. Williams, M. D.—*Medical Jurisprudence.*
S. White, M. D. and S. P. White, M. D.—*Theoretical and Operative Surgery.*
C. B. Coventry, M. D.—*Materia Medica and Pharmacy, and Obstetrics.*

C. Dewey, M. D.—*Chemistry, Botany, Mineralogy, and Natural Philosophy.*

New Hampshire Medical Institution.—The medical lectures at Dartmouth College, Hanover, N. H., will commence on Thursday, 27th August, and continue thirteen weeks.

R. D. Murray, M. D.—*Anatomy, Surgery, and Obstetrics.*

Daniel Oliver, M. D.—*Theory and Practice of Physic, Materia Medica, and Physiology.*

Benjamin Hale, A. M.—*Chemistry, Pharmacy, and Natural Philosophy.*

By the several Professors—*Lectures on Legal Medicine.*

Fever at Gibraltar.—The English and French governments have united with the local authorities at this place, in the laudable design of investigating the nature, causes, and best method of treatment of the extensive epidemic which lately desolated its population. The researches are said to be conducted with spirit and impartiality, and if so, will receive from the medical profession the utmost attention and consideration.

Trial for Libel.—Dr. Beatty, of Philadelphia, has been lately tried in the courts of that city, for an alleged libel against Dr. M'Clellan, professor of surgery in Jefferson College. The defendant was found guilty, and the damages awarded at $500. The account of the trial is shortly to appear in print, when we shall take a full notice of all its important features.

A New Journal at Baltimore.—Horatio G. Jamieson, M. D. has issued proposals for publishing a new journal to be entitled "The Medical Recorder."

☞ Into the note referring to Messrs. Carey, Lea, and Carey, in our last number, there crept a material error. The word "merit" was inserted instead of the words "credit and sale." The object of the article was to disclaim any impugnment, on our part, of the motives which actuated those gentlemen in their detention of the MS. referred to.

TO READERS AND CORRESPONDENTS.

Communications have been received from the following gentlemen: Dr. William Bayard, of St. John's, N. B., through the politeness of Dr. Thomas Cock; Dr. Anderbach, of New Orleans, through professor Delafield; Dr. Pierce, through professor John B. Beck; also, from Dr. John D. Sutphen, through professor C. E. Pierson, Drs. Philip Edw. Milledoler, F. O. Doucet, James Fountain, S. W. Avery, R. K. Hoffman, Abm. L. Cox, &c. &c.

It will be perceived, that several valuable foreign works on practical subjects are reviewed in this number, in anticipation of the English journals. This we shall be enabled to do hereafter with the greatest ease, now that the cause which retarded the appearance of the last and present numbers is removed.

Cheered by the encouragement and approbation which we have already received, we confidently cherish the hope that the New York Medical and Physical Journal will prove to the profession, as prompt a vehicle as any of its numerous and able contemporaries, of the various and interesting information which is daily accumulating in the storehouses of medical learning abundantly scattered over every portion of the civilized world.

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ERRATA IN NUMBER XXX.

Page 238, line 25, instead of "generally brown," read "generally becomes brown."
" 241, line 5, instead of "Morris," read "Monro."
" 243, line 16, insert "the laws of," before "light."
" " " 20, instead of "there," read "then."
" 244, note, read "Monro," instead of "Morris."
" 251, " line 7, read "cold," instead of "dolc."
" 256, line 5 from bottom, read "unseasonable," instead of "unreasonable."
" 257, line 22, for "deterimus," read "detenimus."
" " note, line 3 from bottom, for "pectuarum," read "petechiarum."
" 263, line 22, read, instead of "in general," "we generally."
" 264, note, first word should be "Siquidem," the fourth, "quoque."
" 269, line 13 from bottom, read "heart," instead of "heat."
" 306, line 13 from top, for "every twenty-four hours," read "every two hours."

⁂ The binder will transfer this page to the end of Vol. I. New Series.

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